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ABSTRACT

An information storage and retrieval system has been developed for reporting job placement and followup data of persons trained in industrial education programs in California public schools. The system is built around five forms: (1) school registration, (2) verification of enrollment, (3) verification of address, (4) in-class follow-through, and (5) out-of-class followup. Eventually the system calls for all data to enter a central, state-wide electronic data processing center; however, the emphasis in this report is on the data collection system, not the storage and retrieval system. Prescored cards are prescribed for data collection along with the consideration of mark sensing and optical character scanning when their use is perfected. Field tests emphasized the necessity of having all data processed at the state level, and the importance of a good public relations program to gain faculty cooperation. The tests also resulted in the modification of some forms and the elimination of the verification of address forms. The complete illustrated text for the proposed system including modified and recommended forms is appended. (CH)

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TOWARD A VOCATIONAL STUDENT INFORMATION SYSTEM— A Progress Report

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TOWARD A VOCATIONAL STUDENT INFORMATION SYSTEM:

A PROGRESS REPORT

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California State Department of Education

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FOREWORD

Never before have so many questions been asked of vocational educators about their programs and their students. With the increase in funds for vocational education have come an increase in the number of questions challenging this use of funds. Are we really getting what we are paying for? Are we really reaching the students who need vocational education most? Are we really preparing students for employment? What kind of programs do we have? In brief, what kind of "payoff" are we getting?

We feel certain that vocational education is doing a job that we can be proud of; but we also know that we do not have the data to establish this fact. We need data about vocational education in California in order to describe California's programs and to better prepare for the future.

Mr. Wayne Harris helped us take the first big step in this direction when he proposed an ambitious system for the collection, storage and retrieval of data on vocational students. During the past year the Research Staff of the Division of Vocational Education at UCLA helped us take another big step in this direction. In another year we will be prepared to offer the public schools of California a viable system to collect the facts, evaluate our programs and make better plans for the future.

Richard S. Nelson, Chief
Bureau of Industrial Education
California State Department of Education

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INTRODUCTION

The development of the Vocational Student Information System has grown out of several needs. The primary need stems from the realization that little standardized information is available throughout the nation for the evaluation of vocational education. This fact was apparent to the Advisory Council on Vocational Education in their five-year evaluation and report, Vocational Education: The Bridge Between Man and His Work.* It is apparent when state legislators and others ask pertinent questions about state programs in vocational education and there is no information available. It is also apparent at the local level when recalcitrant taxpayers ask educators to justify the higher expenditures per pupil for vocational programs and there is no information.

Furthermore, at the present time there is no way to follow the flow of students into, through and out of the various types of institutions (high schools, community colleges, skill centers, regional occupational centers, adult schools, etc.) into the world of work. Hence, it is difficult to assess the flow and characteristics of student populations and to evaluate vocational programs which must meet the needs of students with differing backgrounds and characteristics. With such assessments and evaluations, it is expected that significantly improved legislative

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*Advisory Council on Vocational Education, Vocational Education: The Bridge Between Man and His Work (Washington, D.C.: U.S. Government Printing Office, 1968).

policies and programs might be designed at the national, state and local levels to more effectively meet the vocational needs of this nation's boys and girls, men and women.

Equally influential in the establishment of an information storage and retrieval system for vocational students is the frustration with the current methods of data collection utilizing report forms for federally reimbursed programs. The validity of some of the data collected in this fashion is highly suspect. Those who gather this data at the local level are the first to question the validity; and their complaints about report forms are numerous.

The urgent need for an information storage and retrieval system for vocational students at the local, state and national levels has placed the development of such systems in a high priority in many states including California. The Bureau of Industrial Education in the California State Department of Education took the initiative and urged the development of such a system. The evolution of the VSIS can be credited to their leadership.

HARRIS PROPOSAL

Recognizing the need for a system of evaluating and assessing industrial education, the Bureau of Industrial Education contracted with the San Diego Junior College District for the services of Wayne M. Harris as a special consultant to develop a model "information storage and retrieval system for reporting job placement follow-through data of persons trained in industrial education programs in California public schools." In addition, the Bureau appointed an ad hoc advisory committee of ten vocational educators to assist with the study. Mr. Harris, with the aid of the Advisory Committee, made a study during the 1966-67 school year and presented the Bureau with a proposed system.*

The model proposed by Mr. Harris specified the use of five forms: (1) school registration form, (2) F-1 form -- verification of enrollment form, (3) F-2 form -- verification of address, (4) F-3 form -- in-class follow-through and, (5) F-4 form -- out-of-class follow-up. After a series of operations involving numerous error controls, all the data would eventually enter a central, state-wide electronic data processing center. However, the emphasis in the report focused on the data collection system -- not the storage and retrieval system. Although the state-level center was provided in the proposal, it was not described.

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*See Appendix I for an abridged copy of Harris' report entitled A Proposed System for Reporting Job Placement Follow-Through Data.

One significant feature of the model concerned the medium of data collection. The report discussed various types of data collection instruments and prescribed the use of prescored cards. In prescored cards the response positions are pre-cut in such a way that they can be removed by hand rather than by conventional card punching. Mr. Harris also anticipated the perfection of mark sensing and optical character scanning and recommended their use when perfected.

In general, the Harris model provided for a sophisticated system and allowed great latitude in its optimum development. It detailed the data collection system, including the specification of prescored cards, but did not detail the storage and retrieval system. It prescribed a state-level processing center, but did not describe it.

FIELD TESTING

The first recommendation made by Mr. Harris for the further development of the model was that "field tests be conducted in at least three districts." In 1968-69, the Bureau contracted for field tests with the Orange Coast Junior College District, the San Jose Junior College District and the Yosemite Junior College District. In addition, an informal agreement was arranged later during the same year with the Modesto High School District to pre-test some revised forms at the secondary level.

Subsequently, the Bureau also contracted with the Division of Vocational Education, University of California at Los Angeles "to assist in testing and evaluation . . .; to establish a central data system; to provide consultative service to the schools; to resolve and coordinate procedural problems; and to report the results of the pilot study." The Research Section of the Division of Vocational Education carried out the functions during the first year of the anticipated two-year field testing program.

The limitations placed upon the field tests were clearly delineated in the beginning. Although the staff of the Division foresaw numerous problems in implementing the model as proposed, only one significant revision was allowed -- alternative methods of data collection were permitted to be tested. This change provided the use of conventional card punching and optical scanning in addition to the prescored cards. By agreement, the prescored cards were tested at Modesto Junior College.

The project leaders at Orange Coast Junior College District strongly believed in the conventional card punching method and were therefore designated to proceed with this method. San Jose City College, on the other hand, had two years of experience adapting all their data processing to optical scanning and therefore was directed to adapt the proposed model to scanning procedures. However, no other changes in the model were allowed until it became obvious after a first semester test that many modifications were necessary.

Another significant restriction upon the field test was its limitation to only students in trade and technical subjects. A major objective in the development of the system is to make it applicable to all vocational subject areas. Nevertheless, during the first year all field testing was limited to the subject areas directly related to the Bureau of Industrial Education.

On the other hand, each of the participating school districts were allowed, even encouraged, to go beyond the scope of the Harris proposal to facilitate objectives independent from the prescribed program. Orange Coast Junior College District took advantage of this opportunity to develop and enlarge the system for their entire student body. At the present time, they undoubtedly have the most comprehensive information system of any of the participating districts.

Coordinating Committee

In anticipation of the contracts with the three junior college districts, the Division staff established and convened a Coordination Committee which met May 1, 1968 at UCLA. The Committee consisted of two members from each of the three junior college districts, two members from the Division, the Assistant Chief of the Bureau of Industrial Education and other ex-officio participants in the district, the University, and the Bureau.

The purpose of the Committee was to facilitate and coordinate the development and field testing of the model. The Committee became the central clearing body for all matters pertaining to the development and testing of the system. The Division of Vocational Education at UCLA had the responsibility for convening the Committee and planning the agenda, but decisions were made by common consent though subject to review by the Bureau of Industrial Education. During the year the Committee defined the system, specified the operations, set its own goals and evaluated the progress of the project. On January 21, 1969, the Committee met again in Oakland after the first semester of field tests and identified many needed modifications in the system.

First Semester Evaluation

When the Coordinating Committee met in Oakland after its initial experience in testing the proposed model, the members concurred that the model was conceptually good but that the system needed to be simplified and "cleaned up." They agreed that it had served as a valuable starting point, but that there were ample reasons for numerous modifications. The following discussion identifies the problems of most concern to the Committee.

1. Prescored cards were unsatisfactory. A large amount of data was lost in processing the prescored cards. Since they are thinner than the usual punch card, they curled and misfed into the machines. Damaged cards could not be duplicated on keypunch machines. Hand-punched tabs were frequently not completely removed from the card. In addition, the student punching out the tabs could not correct the errors he made; and error correction added considerable time and work for others. Furthermore, many extraneous punches were encountered invalidating the data.

2. Many items (questions) on the forms were unsatisfactory. A number of them proved to be vague, not understood or redundant. For example, one question on the F-1 form asked, "Do you intend to obtain employment or more advanced employment as a result of this class?" In other words, is this class beneficial for obtaining employment or more advanced employment? In such a question one student may reason that any class required for his vocational major is necessary for employment, while another student may not see the value of the same class in spite of the

fact that it is required for his major.

Another question read, "Indicate intended date of employment (if date is not known, enter date that the term ends)." Many students did not know when they would seek employment and expected it to be several years in the future. They didn't know how to answer this question. Furthermore, when this was the case, they could not understand why someone would want to know the date the term ends.

Students also did not know how to answer the question designed to determine the kind of program in which they were enrolled. For instance, they frequently did not know the meaning of "MDTA," "Specified Business Courses," "Trade Extension Supplementary Education," "Apprentice," "Off Campus," "Adult" and others. Interestingly, few administrators and very few instructors in the Orange Coast Junior College District were able to accurately define all of these terms.

Instructors also had difficulty responding to the "Student Not Enrolled" box on the F-1 forms. Numerous definitions of enrollment and various procedures in withdrawing names from the enrollment list make this question difficult for the instructors to interpret.

We suspect that one reason for the numerous problems with items resulted from their direct transfer from federal report forms. In the attempt to make the system answer the questions required by the governmental agencies, the form of the question was not adapted to the intended users, namely, the students.

3. Standardization of data remains a persistent problem, especially with the registration data. Each institution has adopted a particular

form for gathering registration information and is reluctant to change this form since their whole system is geared to it. One excellent example is the ethnic question. Another example is the question about educational background. There are almost as many forms of these questions as there are schools asking them.

4. The problem of standardized data goes beyond the internal dimensions of the Harris system. The Coordinating Committee was also concerned about developing this system completely independent from other systems which are in various stages of development. For example, the California Joint Committee on Higher Education has contracted with the Computing Science Section of Aerojet General Corporation and Baxter-McDonald and Company to design an information system to serve the entire California educational system. Dr. Steven Sheldon, of the University of California at Los Angeles, has also proposed a number of geographically centralized information systems serving the needs of junior colleges in a report entitled "Feasibility Study, Common Data Bank and Common Data Processing System for California Junior College System," dated October 1968. The League for Innovation in the Community College is considering the development of an information system which is likely to result in a centralized, League-operated information system serving research and evaluation needs of League members. An organization of northern California community colleges, the Northern California Research Group, is requesting federal funding for a student attrition study to be jointly conducted by 37 colleges. The Coordinating Committee was aware of the duplication of efforts and was concerned that the lack of coordination between these

separate and seemingly independent developments may eventually cause problems for one and all. The Committee felt that these developments should be watched with interest.

5. The number of forms must be reduced. According to the Harris model, the student must supply answers to questions on one registration form, three in-class forms and one or more follow-up forms. The three in-class forms involve considerable repetition when viewed from the perspective of the school administrators, the instructor and the students. It is hard to justify the amounts of time and effort required by all concerned for each in-class form when the same data can be gathered in some other way. Therefore, the Coordinating Committee recommended utilizing only one in-class form, reducing the system to a total of three forms -- one registration form, one in-class form and one follow-up form.

6. Teacher apathy presented another significant problem. The experience at Orange Coast College illustrates this problem. In-class questionnaires were distributed to instructors two weeks before Easter vacation in the spring semester. The instructors were asked to return the completed questionnaires by the Friday (March 28) preceding the Easter holiday. Questionnaires were still being returned as late as the middle of April. Out of 716 faculty members, 103 had still not returned the questionnaires by May 5, despite reminder memoranda delivered after Easter vacation. These unreturned questionnaires amounted to 238 classes out of a total of 1,685 to which questionnaires were sent.

When the project leadership at Orange Coast attempted to obtain teacher reactions concerning the in-class use of the forms with a very

brief three-item questionnaire, only 38 percent bothered to return the form. However, 83 percent of those who did respond did not find the data-gathering procedures prohibitively cumbersome and 42 percent were willing to spend even more time at it.

7. The F-1 form, verification of enrollment, also presented difficulties. Under Harris' plan, the student is required to fill out the form only once and to merely sign it when presented to him in other classes. The main problem is that the responsibility for expediting this directive resides with the student. The teacher can hardly be expected to be responsible for this.

Furthermore, the utility of question 3 on the form is lost if the student merely signs additional cards. The intent of question 3 is to assess the usefulness of the course to the student in terms of employment.

In addition to these evaluations, the research staff of the Division was concerned about another important problem which must be solved before any such system can become operational. Lack of authority plagued the field testing. The system will not be viable unless a high level of cooperation and compliance from all participating institutions is effected.

The research staff of the Division is most sympathetic about the problems of the participating school districts. These institutions can not be expected to drastically alter their established systems of data collection in favor of a different, unproven system. In addition, modifications would have required considerable advance notice in order to alter existing data forms and to develop software. Therefore, the integration of this vocational system with the ongoing systems was not

accomplished and the result was a duplication of effort to obtain the data required for the proposed system.

Although the research staff is highly sympathetic, it must be acknowledged that the success of the system will be greatly curtailed without the authority to obtain the desired objectives of the system. The reluctance to change established systems of data collection, to adopt standard questionnaire items and to accommodate time schedules placed limitations upon the field testing. If authority can not be established, the system will ultimately break down.

One section taken from the progress report of the Orange Coast Junior College District illustrates the effect of lack of authority obtaining necessary computer time. The following account is taken verbatim from this report.

> The Orange Coast Junior College District has enjoyed the use of an elaborate, sophisticated IBM 1401 computer system for a number of years. This system is in considerable demand for instructional purposes and for routine data processing chores of the District. As a result, we find the time available to use the computer system for our developmental efforts to be scarce indeed. We have been charged, not altogether inappropriately, with developing an entirely separate student record-keeping system and that the data processing facility is hardly able to cope with one such system, much less two.
>
> The lesson we have learned is clear. There is no such thing as idle capacity in any data processing installation, no matter how large or how efficiently run. Undertaking to implement an information system along the lines of Project Follow-Through, whether as an integral part of the on-going record system or as an independent system, requires time and service that the data processing system department is not often able or willing to provide. Almost invariably, work we needed done for purposes of Project Follow-Through conflicted impossibly with work needed for

other purposes of the District. As a result, the majority of our production runs using the computer system were performed almost surreptitiously on weekends, during the wee hours of the night, and during time borrowed, after much persuasion, from that set aside for purposes of the educational data processing program.

Needless to say, we have not found this situation amenable to getting our project implemented effectively. Vital work has been weeks and even months delayed in getting done. As a result, much of our data is of unacceptable quality.

It is obvious that a viable data processing system can not tolerate such a low-priority, beg-and-borrow accessibility to the computer. Authority to obtain high priorities for the operation of the system is mandatory.

FIELD TESTS AND EVALUATION OF MODIFIED FORMS

Modification of the Harris model after the field tests was assumed by Harris, his Advisory Committee, the research staff of the Division of Vocational Education, the Coordinating Committee and the Bureau of Industrial Education. But, as stated above, there was a clear understanding that the system would be initially tested as proposed by Harris with the one exception of using conventional card punching and optical scanning as well as prescored cards. At the end of the first semester, numerous modifications were needed.

During the second semester the research staff, following the recommendations of the Coordinating Committee, modified the registration form, the in-class enrollment form and the follow-up form and pre-tested each form in the participating junior college districts and the Modesto High School District. (Three Modesto high schools were included in the pre-test.)

It should be noted that the decision to only pre-test the forms necessitated postponing some other phases of the development of the system due to the tentative status of the forms. Therefore, the pre-test did not survey all students in industrial education. Nor did it call for a further development of the software at each of the participating institutions or the development of a central data bank.

In brief, the development of the system during the second semester was limited to three major objectives: (1) the testing of the modified forms; (2) the extension of the field tests to include the secondary level

and (3) the extension to include the follow-up form.

The modified forms, found in Appendix II, were prepared with the following objectives in mind:

1. Identification of essential information
2. Elimination of the former F-2 form *
3. Elimination of redundant queries
4. Elimination and/or "clear-up" of ambiguous items
5. Facilitation to data processing
6. Simplification of item responses
7. Anticipation of "across-the-board" use of forms
8. Anticipation of new federal course codes
9. Adaption to changes in federal report forms

The evaluation of the modified forms was based on the following returns from the three junior college districts and the Modesto High School District.

District	Registration Form	Enrollment Form	Follow-up Form
Orange Coast Junior College District	126	126	61
San Jose Junior College District	361	204	--
Yosemite Junior College District	1,040	1,040	--
Modesto High School District	772	586	--
Totals	2,299	1,956	61

*See recommendation 2 on page 21 for an alternate method of collecting verification of class completion data.

The Supplementary Registration Form presented more problems than the other forms. For example, the number of "no answer" responses to several of the questions was large enough to indicate concern. Eleven percent gave no response to the ethnic question and it appeared that the lack of response could not be associated with particular ethnic groups. This suggests that the form of the question, which required Caucasians to place themselves in the "other" category, resulted in confusion. A category for Caucasians should be specifically provided for in the subsequent form of this instrument.

The attempt to obtain a second address also failed in eight percent of the returns. However, since this was a "back-up" question for follow-up purposes, this percentage could be considered tolerable.

On the other hand, the percentage of "no answers" (4.8 percent) for the social security number is not as tolerable. Since the system requires an identification number for every student, this number must somehow be acquired. The Harris system prescribes assigning a temporary social security number. Although this was not required for the pre-test, it will be required for the satisfactory operation of the system.

The percentage of "no answers" to the question on family income is tolerable at the 3.3 percent level even though a smaller percentage would be more desireable.

Another frequent problem with the Supplementary Registration Form and also with the other forms was the multiple response to a single-response item. In one instance, the form was clearly in error. In other cases, this error appeared to be a problem of quality control in the

administration of the instruments. This indicates a need for further clarification of the instructor's role in the proper administration of the instruments.

By comparison, the Enrollment Form appeared to be a more satisfactory form. The major problem with this form was the eight percent lack of response for the social security number. As stated above, the acquisition of an identification number is mandatory for the operation of the system.

Although the number of returns of the Follow-up Form was small, it appears that there is no outstanding problem with this form.

Despite the fact that the research staff of the Division has evaluated the responses to the forms, formal reliability and validity tests of the three instruments should be conducted. The operation of the system without such tests of the instruments should not be undertaken. Without such tests we do not know the actual percentages of error on each of the items in the questionnaire nor do we have adequate guidelines for the improvement of the forms.

Meanwhile, however, work on the continued clarity of the items, supplementary instructions and definition of terms can proceed. The revised forms as indicated in Appendix III, recommended for further testing during the 1969-70 school year, are developed with these goals in mind.

RECOMMENDATIONS

The following recommendations are presented to the Division of Adult and Vocational Education, State Department of Education, for the development of the Vocational Student Information System during the school year 1969-70. It is anticipated that the system will be ready for widespread use in California's public school systems by the school year 1970-71.

1. Field test all forms in other types of institutions -- adult schools, regional occupation centers, etc. -- and modify forms as necessary. Thus far, the forms have been tested in junior colleges and high schools only.

2. Since the reduction in the number of forms necessitated eliminating the F-2 Form in the Harris system, it is recommended that the verification of class completion data be ascertained at the end of the term by a class enrollment list generated from the Enrollment Form by the state-level data processing center. This computer-generated list would require only a simple identification of those who had not successfully completed a course from a list of those who had enrolled for the course. In addition, it would require adding a course section code on the Enrollment Form in order to differentiate classes with the same course title code.

3. Prepare all forms for both optical scanning and conventional card punching. The school districts in the State should have a choice.

4. Conduct validity and reliability tests for all forms. Although

the system will eventually have to exist with a certain level of error, this level must be diminished as much as possible. Furthermore, the level of error should be known when using the data.

5. Field test the forms "across-the-board" in all of the subject areas for which the system is designed. Since the system will be used in all vocational subject areas by 1970, the field tests must be conducted in these areas during 1969-70.

6. Utilize the follow-up form with randomly-selected, ten percent samples of the graduates rather than with all vocational graduates. Attempts should be made to obtain responses from the entire sample. It is our judgement that extrapolations from a purely random sample will provide accurate descriptions of the real population.

7. It is recommended that the entire follow-up process (selecting the sample, administering the Follow-Up Form, processing and reporting the data) be the responsibility of the state-level data processing center. The amplification of problems anticipated if the administration and control of the follow-up program is carried out by literally thousands of school district personnel will be eliminated. This recommendation assumes that follow-up data will be routinely reported to the school districts.

8. Establish a central data bank (i.e., a set of files) at the Division of Vocational Education, University of California at Los Angeles, from which reports and studies can be made for the Division of Adult and Vocational Education, California State Department of Education.

9. Intensify efforts to infuse the value of the system into the faculty and administration of the participating institutions. Work

directly with faculty rather than through intermediaries wherever possible.

10. A manual detailing the entire system, procedures and instructions should be developed and introduced with the necessary forms when the system becomes operational.

11. Maintain contact with leaders of other emerging systems and effect an integration wherever possible. It is to our advantage to avoid duplicated efforts.

12. Provide greater freedom for the Division research staff to utilize their competencies in data collection and storage and retrieval. Although the proposed system provided a good starting point, many of the problems in the field this past year could have been avoided if the designer of the model and at least some of the members of the Advisory Committee had been specialists in the field of data processing.

13. Evaluation of the future success of the system by the State Department of Education must not underestimate the power of authority to obtain compliance in meeting the objectives of the system. Since some form of "muscle" will eventually be needed, the State Department of Education should anticipate and evaluate the implications of its manifestations.

A P P E N D I X E S

A P P E N D I X I

A PROPOSED SYSTEM FOR REPORTING JOB PLACEMENT FOLLOW-THROUGH DATA

A Proposed System for Reporting Job Placement Follow-through Data

Prepared by the
Bureau of Industrial Education
Division of Instruction
State Department of Education

PREFACE

Information storage and retrieval are now words in general usage by educators. Many innovations in education will come about through the application of this new science, largely yet unused, by educators.

Recognizing the need of a system for evaluating and assessing industrial education, the Bureau of Industrial Education entered into a contract with the San Diego Junior Colleges for the services of Wayne M. Harris as Special Consultant, to develop a model, Information Storage and Retrieval System for Reporting Job Placement Follow-Through Data of Persons Trained in Industrial Education Programs in California Public Schools. The study was made during the 1966-67 school year.

The proposed system was designed to be used statewide and to include high school, junior college, and adult students in industrial education programs.

The Bureau of Industrial Education appointed an ad hoc advisory committee to assist with the study. The members were:

Joseph C. Bellenger, Assistant Superintendent for Vocational and Adult Education, San Jose Unified Schools
Nathan H. Boortz, Director, Technical-Vocational Education, Foothill College, Los Altos Hills
Irvin Colt, Dean and Coordinator, Technical and Vocational Education, Mt. San Antonio College, Walnut
David E. Fleckles, Coordinator of Vocational Education, Sweetwater Union High School District, Chula Vista
Bernard Gjerdrum, Director of Vocational Education and Federal Programs, College of San Mateo
Russell P. Journigan, Dean of Vocational Education, Sierra College, Rocklin
Lee W. Ralston, Director, Division of Practical Arts Education, Los Angeles County Schools
Donald F. Reynolds, Supervisor of Vocational Education, Division of Adult Education, Los Angeles City Schools
Louis A. Schwark, Director, Vocational Education, Modesto Junior College
A. L. Waltz, Supervisor, Trade and Technical Education, San Francisco Unified Schools

Appropriations provided under the Vocational Education Act of 1963 aided in financing this project.

EUGENE GONZALES
Associate Superintendent and
Chief, Division of Instruction

RICHARD S. NELSON
Chief, Bureau of
Industrial Education

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A PROPOSED MODEL FOR AN INFORMATION STORAGE AND RETRIEVAL SYSTEM FOR REPORTING JOB PLACEMENT FOLLOW-THROUGH DATA OF PERSONS TRAINED IN INDUSTRIAL EDUCATION PROGRAMS IN CALIFORNIA PUBLIC SCHOOLS

Acronym:

Project: JOB DATA

Jobs, Occupation and Background, for
Data Automation in Technical Areas

INTRODUCTION

The local, state, and federal industrial education agencies needed similar information. Each had different ways of collecting and computing answers for similar questions. It was not practical, with or without machinery, to interpret these diverse methods into a single report. Standardized report forms with simple reporting methods would be more economical and efficient for all concerned. Statewide cooperation would be required on what questions needed to be asked, when to ask them, and, of course, some coding systems.

Job placement reporting had reached a point where it needed special study. There was a need, and the time was right for the science of information storage and retrieval to be applied to one industrial education evaluative factor--that of job placements.

Purpose. With the advent of the Vocational Education Act of 1963, and other federal efforts in vocational education, the need for some standardization in the collecting and analyzing of data had become necessary.

The purpose of this study was to prepare a model for an Information Storage and Retrieval System for Reporting Job Placement Follow-Through Data of Persons Trained in Industrial Education Programs in California Public Schools and to make recommendations for the application of the model on a statewide basis.

Objective. Industrial education has been subjectively evaluated, and to a lesser degree objectively evaluated, by all elements of society. The need now is for a system of objectivity evaluating industrial educational programs. Industrial education has been of value to society. By applying modern information storage and retrieval principles to the reporting and recording of job placement follow-through data, industrial education can now prove its value to society. A proper information storage and retrieval system would also make the participation in a follow-through study by educators and students less burdensome--and more rewarding.

SUMMARY

The need was to propose a model and to make recommendations for an information storage and retrieval system for reporting and recording job placement follow-through data of persons trained in industrial education programs in California public schools.

Industrial educators needed to react to current, ongoing data objectively derived from a standard data base. The Vocational Education Act of 1963 further stimulated the need for a data system to effectively and objectively evaluate industrial education programs. To meet these needs, the California State Department of Education, Bureau of Industrial Education, suggested that a study be made to help meet these needs during the school year 1966-67. A model data system was to be ready for trial for the year 1967-68.

An ad hoc advisory committee was set up to aid in the study. The committee met in Sacramento in February, 1967, to discuss the study and proposals and has continued to give counsel and guidance to the study.

As a result of the study some new forms are recommended, using standardized codes and reporting procedures. The new forms will provide data on job placements for certain required reports, such as VE 45, and will probably reduce the overall number of report forms necessary.

Many of the present-day data gathering methods and processing techniques were considered. The prescored card was selected for the questionnaire instrument. Response positions, punched out by hand, are read directly by various electronic data processing (EDP) techniques.

The registration forms, verification of enrollment and addresses, and the in-class follow-through forms are completed by all industrial education students while still in school. The out-of-class follow-through form is mailed to students after they leave school. Samples of the forms are included in the report.

The system, as planned, may stand alone, operate in conjunction with other EDP projects, or become a part of larger information storage and retrieval systems. The system is versatile and will accept new types of data and data gathering techniques for other evaluations and assessment of industrial education.

The data collected from the students while still in class would permit an unduplicated count of all (or any part, such as sex, age, ethnic background, or locale) industrial education students at any time. Many types of directories could be compiled such as for industrial education schools and/or classes. Estimates could be made of when the students in any particular training program would be ready for employment.

The student's major may be identified by declared major or by the actual major. Individual dropouts could be identified early enough to be helped and the drop-out rate established for the total state or by special groups.

Last, but not least, job placements could be accounted for, thereby evaluating certain industrial education programs and classes.

SEARCH OF THE LITERATURE AND PROCEDURE

Search of the Literature. The information storage and retrieval system for reporting job placement follow-through data incorporates parts of many existing EDP programs. The model can be seen as a cooperative effort of the best of present systems. The literature on follow-up revealed a breadth of studies from simple, single class tabulation to elaborate, automated, statewide and nationwide studies.

Two of the more elaborate studies are: 1. Grossman and Howe's (4) study for establishing a system of Regional Education Data Processing Centers in the State of California, and, 2. The Vocational Education Information System (VEIS) by Federal Electric Corporation, (10) a nationwide data gathering system. Several of the planned California Education Data Processing Centers are now operating. The VEIS has been completed and is being considered for possible nationwide use. If either of these systems materialize as planned, the present model, as recommended in this report, could easily be incorporated.

Grossman and Howe (4), Dearden (1), and Manatt (6), seem to agree that the use of regional data processing centers (decentralization) is proper. Further, Goldstein (3) suggests some sharing of data processing procedures and equipment by smaller school districts. The Office of the Los Angeles County Superintendent of Schools (7) has a computer (RCA 201) for processing pupil personnel data. The recommendations of this report concur with the above references. A basic assumption, made before the study was started, was that EDP would be available to all participating schools.

Commercial equipment and systems of data transmission and storage are also available. The Tele-Computer Center, American Telephone and Telegraph Company (2), has developed a method of gathering data via a teleprinter network. IBM's System/360 for school data problems is particularly adapted to the problem of an information storage and retrieval system for job placement data. The Tele-Computer (2) incorporates a unique "Error Control Procedure," which is an inherent part of the recommendations made for this study.

The Florida Project, "A System for Processing Educational Data Electronically," (11) by L. Everett Yarbrough, has been "dreamed up" by the staff of the Florida State Department of Education. The Florida Project suggests that error control should be completely the responsibility of the schools involved. This report recommends that errors, or any changes at all, be the responsibility of the student, and then the school.

Mailey (5) has just completed (August, 1966) "A Vocational-Technical Student Follow-up System," using EDP, and "psychological" and "mechanical" methods to generate a high percentage of response.

Iowa Education Information Center (IEIC), a computer-based educational information center (8), has developed ways to gather data, put it in a computer, and extract pertinent portions quickly for use by different levels of educational systems.

The State Department of Education, Bureau of Industrial Education, will, as much as possible, utilize any existing systems or experimental systems that

are available. Present equipment and machinery will be used at all levels at which it exists. For instance, Grossman and Howe's (4) project in regional education data processing can already supply data for the information storage and retrieval system for reporting job placements, particularly for high school students.

A summary of the above reference would indicate that any statewide job placement reporting system would of necessity be highly automated, divided into large segments (regions), and be consistent with other data gathering efforts.

Standardization of data and data gathering techniques, coding systems, EDP, and computers all are necessary parts of a total system.

Follow-Through Versus Follow-up. The data collected for the statewide reporting of job placements will be student oriented. The recording of data will start when the student enters a California public school offering industrial education programs and will continue on during the student's educational and working life.

Current, ongoing data are needed to evaluate industrial education programs while the classes still exist and while the whereabouts of the students are still known. Working with the student directly and following through seems more appropriate than following up after the student is gone. Although both terms, follow-through and follow-up, will be used interchangeably in this report, the term follow-through will be used predominately.

General Plan Followed in Developing the Model. The information storage and retrieval system for reporting job placement follow-through data, as recommended here, was established through a search of the literature, documentation both from the educators and the electronic data programmer's viewpoint, observation of existing programs, and direct contact with persons interested in evaluating industrial education programs.

The report will describe the processes to be used to collect, store, and retrieve the data concerned with job placement information of persons trained in industrial education programs in California public schools.

Procedure. Questionnaires, registration packets from various junior colleges, high schools, and adult schools, follow-up models and past studies, observation of existing systems, actual EDP programs, industrial brochures, and a search of the literature, were used in the design of the proposed model for an information storage and retrieval system for reporting job placement follow-through data.

The questions were collected, sorted out, and classified; the most suitable were redesigned or reworded so that answers could be made in a single response position. The response position was further outlined with a box. With this type of response, many of the present EDP systems could be used, such as: 1) Electronic mark sense: special pencils are used to mark the response positions. The marks are sensed, or picked up electronically by feelers and recorded; 2) Optical mark sensing or scanning: regular #2 lead pencils are used to mark the response positions. The marks are sensed with optics. Optical character reading is the next step; here printed figures and letters can be read by optical means and recorded; 3) Manual key punching: for this system a key punch operator reads the response positions and machine punches

a card which, in turn, will be used to process the data; 4) Prescored cards: the response positions are pre-cut in such a way that a tab can easily be removed by hand. The latter method, where a response position tab is ready to be punched out by hand, was selected--selected because it suits the present purposes better. Some data has been included in the appendix about optical mark sense. Optical mark sense or optical character scanning will, when perfected, be used for this project. The questionnaires and systems have been so designed.

From the material collected and analyzed, a standardized registration form for junior colleges was designed (Student Transmittal Form of the California Education Data Processing Center (4) was used for high school students), along with three other questionnaires and one computer print-out form. These forms will be explained under "Flow Chart and Report Forms."

Job placement data will be asked of all students enrolled in any industrial education class. The registration forms and questionnaires are printed and special field tests performed, in selected schools, to check out the procedure, materials, and processes. Future plans are to make extensive field trials of the total system in three or four school districts throughout the State of California in the school year 1967-68.

Limitations. The proposed model for an Information Storage and Retrieval System for Job Placement Follow-Through Data of Persons Trained in Industrial Education Programs in California Public Schools has been limited, as the title implies, to the reporting of job placements of the persons named.

Ad Hoc Advisory Committee. An ad hoc advisory committee was formed and met in Sacramento in February, 1967. (See appendix for members and minutes.) A preliminary model and questionnaires were presented to the committee. After extensive discussion and revisions, the committee accepted the preliminary model and questionnaires. Different members of the committee have continued their interest in the study by making further contributions. An important contribution of the advisory committee for this study was the adding or redesigning of questions to include job placement credit for:

1. Students going into the armed services in an occupation in which training was received, or into a related occupation.

2. The trade extension or supplementary education students who are promoted or advanced to better or new jobs as a result of training.

3. Students who do not complete any particular industrial education course or program but are placed on jobs as a result of the training.

A Start. The proposed model represents a combination of the most desirable--the most applicable portions of present systems. However, there may be unrecognized factors which would preclude the desirability of using this method at the present time. But it is a start; and a start needs to be made towards automating the collecting of data--data in general, but in particular job placement data for making evaluative judgments concerned with industrial education

in California. Data is needed that can be used on a local school level, which demands detail and large returns, and on a statewide basis, which requires considerably less detail and fewer returns. The apparent need of some standardization, more accurate data, current data, and a system for reporting and recording job placement data and other evaluative factors were among the main reasons the study was performed.

Educators today freely use the phrase "information storage and retrieval," and the vocabulary of the electronic data processors is even more common. Industry (and to a lesser degree government) is well versed in the use and the "state of the art" of the information storage and retrieval techniques. Job placement reporting is a real need, but other equally important evaluations and assessments also need to be made in industrial education. A proper information storage and retrieval system should be able to serve many present and future needs. First an information storage and retrieval system for industrial education data must be established--almost any system to build on; then a process of feedback and iteration would soon show the flaws and shortcomings of the system.

Evaluation. The study proposed a system for evaluating one factor concerned with industrial education programs, that of job placement, as compared with enrollments. The evaluative study needs to be evaluated.

In preparation for the evaluation, previous years' records were studied, and the enclosed formulas were devised and the computation made as shown. The same computation should be applied to this study, if the data are similar. Adjustment should be made for any data that are not similar such as that of unduplicated student count as opposed to a duplicated count.

Instructions for computing percentage of pre-employment student placement:

The print-out for 1964-65 and 1965-66 did not separate pre-employment and supplementary enrollments. The following procedure was used to arrive at these percentages:

Enrollment--The enrollment figures are for male and female pre-employment (A-B-C) only. The sub-total(s) of either pre-employment or supplementary enrollment (whichever was lesser) was subtracted from the grand total(s).

Placements--Those few persons placed from supplementary enrollment were subtracted from the total placement(s) of pre-employment enrollment.

Calculation--The placement figure is divided by the enrollment and multiplied by 100 to arrive at the percentage of placements from pre-employment enrollment.

$$\frac{\text{Pre-employment placements}}{\text{Pre-employment enrollments}} \times 100 =$$

Percentage of pre-employment enrollees placed

Example: $\frac{421}{3787}$ pre-employment students placed
pre-employment students enrolled

$$3787 \overline{)\ 421.0000} = .1111$$ (to 4 places after the decimal point)

$$.1111 \times 100 = 11.1100$$ or 11.11%

FLOW CHART AND REPORT FORMS

Flow Chart. Reading from top left to right are the in-class questionnaires, requiring 100% reporting, followed by the out-of-class questionnaires, center left. All data are entered into storage, and each succeeding questionnaire is machine addressed to the student--either addressed to the classroom for the in-class forms or the home for the out-of-class forms.

The student will be asked only once for any particular bit of data.

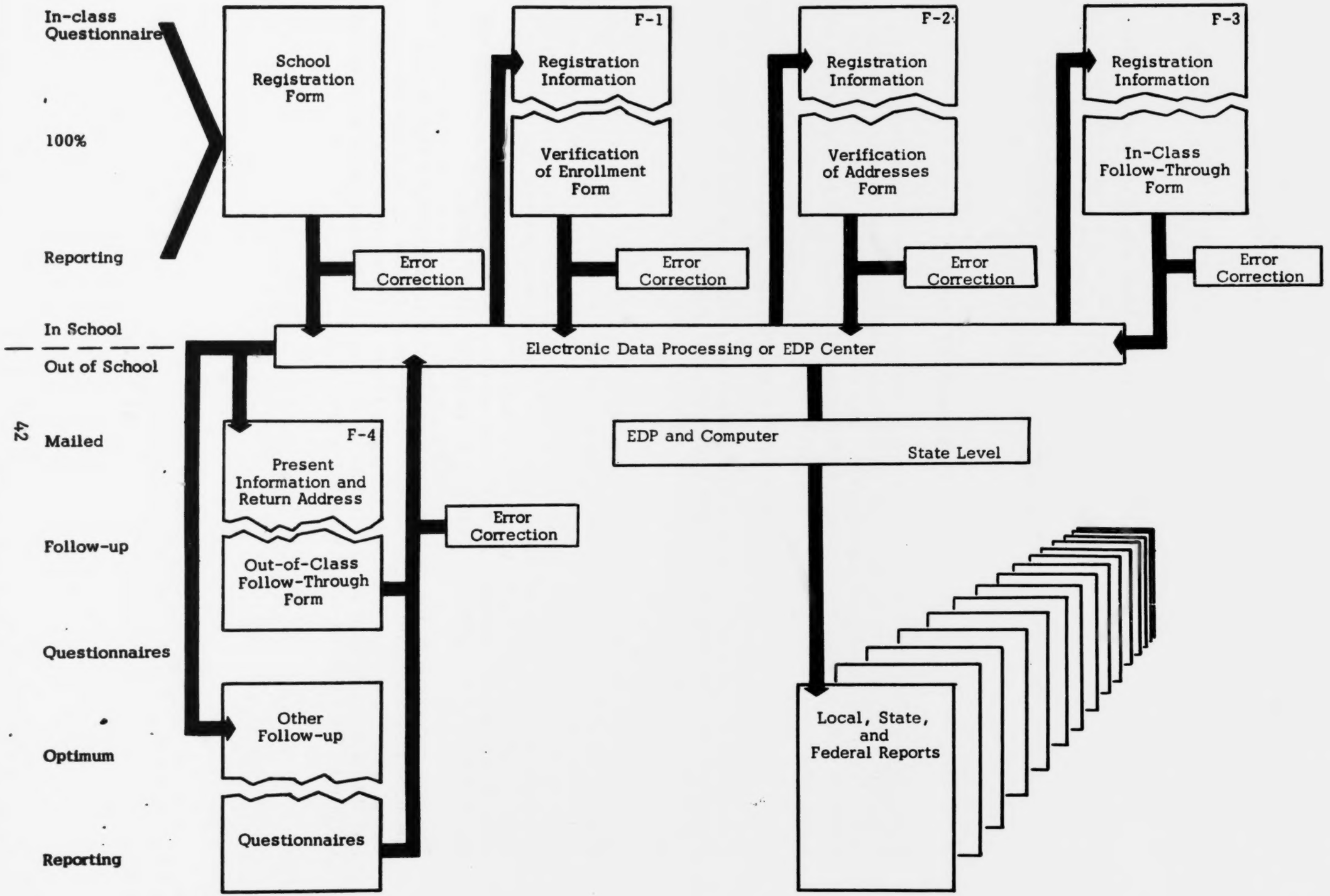
The electronic data processing or EDP Center that represents the data input and output for the registration form and questionnaire is anywhere the actual records are stored. Local, state, and federal agencies, can request data, as permitted, from the EDP Centers.

Report Forms. The remainder of the report will describe the questionnaire flow chart and questionnaires. These forms are new to the State Department of Education, Bureau of Industrial Education. The forms, other than the registration form, have been designed so that they may be machine processed directly without going through a key punching operation. The questionnaires, as received from the student, are ready to process either on card sorting machines or to enter directly into storage. As described earlier, the response positions on the questionnaire are prescored, ready to be punched out by hand.

The data requested in the registration form and the questionnaires that follow are more than adequate to complete the VE 45 form, Follow-up of Students Completing Vocational Education Programs (State Department of Education form and its parallel Federal form). If data other than on-job placements were added, certain of the VE forms could be eliminated.

FLOW CHART

QUESTIONNAIRES FOR FOLLOW-THROUGH AND JOB PLACEMENT REPORTS



Standardized Registration for Junior Colleges Form R-1

A standardized registration form greatly simplifies the total effort of collecting and processing job placement data. The use of this form is recommended. Following are some advantages:

1. Only one program would have to be written for any particular type of EDP equipment. Writing EDP programs for diverse registration forms, and assorted EDP equipment, would not be practical. Standardized forms would offer standard type of data. As data requirements change (and data requirements will change) questions could be added or removed from the questionnaire for the whole state so that the reporting data base would remain the same.

2. The student should have to furnish the data requested on the registration form only once for his entire school life, no matter which school he wishes to attend in California.

3. Standardized data available from the total state on a continuous, ongoing basis over a long period of time would offer a source of information that would produce immediate answers to some types of "follow-up" studies.

4. The inclusion of standard data for ethnic background would permit many evaluation assessments to be made for groups with special needs. (See appendix for ethnic background letter.)

There would be other advantages, and certainly some disadvantages, with standardization, but some standardization must be required if job placement is to be processed on a statewide basis.

Only the first few questions on the Registration Form for Junior College is of immediate concern for the study. These are the name, social security number, and addresses. The addresses are needed for the Out-of-Class Follow-Through Form F-4, EDP mailing program.

The Form R-1 was designed so that the information could be manually key-punched and/or read by optical mark scanning equipment. The total form was designed so that it could also be used conventionally, i.e., straight reading of data.

Social security numbers. Social security numbers will be required of all students registering in California schools offering industrial education programs. Although another number could be used temporarily until a social security number could be secured, the registration will not be considered as complete until the social security number has been recorded. The schools should help the students who do not have social security numbers to apply for them.

All junior college students entering a California public school offering industrial education programs will register using the Standardized Registration for Junior Colleges Form R-1.

High school students will use the Student Data Transmittal registration form offered by the California Educational Data Processing Centers. The Student Data Transmittal form can supply all the data, except the social security number. Even here the school would not be remiss to request, and to assist, the student in getting the social security number.

After the student registers the data are checked for obvious errors and completeness and a notice mailed to the student notifying him of any changes that are necessary (a "change" is a correction of any kind) and whether or not he has been accepted or cleared for admission to the school.

Error control. There are many error control features built into each step of the system. Any change, or errors, made by the student, will be the student's responsibility to correct. It is suggested that after the student appears in person and registers, the required "clearance of admission" be mailed to him. This will verify his address. Any "changes" would be noted, printed out by the computer, and sent to the student (via mail). If these changes were not made, or the form not received by the student, the registration would not be considered as complete.

Mailing any necessary correspondence to the student would be a continuous check on his address; and if out-of-district or out-of-state tuition is to be charged for attendance, a savings could be made by finding incorrect substitute addresses.

The student should now be completely registered, cleared for admission, and enrolled in the classes of his choice. The records are now complete and correct and have been entered into storage. The industrial education student may now be identified for the first time.

Verification of Enrollment Form F-1 and Verification of Addresses Form F-2

The Verification of Enrollment Form F-1, and the Verification of Addresses Form F-2, are machine addressed and sent to each industrial education class.

The Verification of Enrollment Form F-1 is a pre-printed questionnaire on a prescored card as partially described under "Procedure" of this report. (Also see appendix for actual card.) The student's name, social security number, class and school code are all pre-recorded on, and machine punched into, the card. The name, social security number, codes, and later the home address are referred to as the student's "address." The student is to check the data already on the card, read the questions and make the proper responses (answers) by punching out the prescored tabs. If the student is on the class roster, but not actually in class, there is a response position for the instructor to punch out. Only one such questionnaire has to be completely filled out by the student, but one card will be dated and signed for each class the student is presently in.

The Verification of Address Form F-2, is a complete machine generated print-out (taken from the registration form). If the data is correct, the student does nothing; if incorrect, the student makes corrections and returns the form for updating of the records. Only one such form, if there are any changes, needs to be acted upon.

Kind of data available. The following kinds of current ongoing data are now possible.

1. Total enrollment of all industrial education students. Figures can be compiled as to ethnic background, sex, age, marital status, locale, etc. (See Registration Form R-1 for junior colleges. Somewhat less data would be available for high school and adult students.)

2. Unduplicated student count.

3. Directory for all industrial education students.

4. Directory of all industrial education classes.

5. Directory of all California public schools offering industrial education classes and what classes are offered.

6. Total enrollment in a particular type of training program and when each student will be ready for employment.

7. Students may be identified by stated major or by the major determined by the courses taken.

These data are some of the more obvious, but many more questions could be asked of the data bank, especially if the Registration Form for Junior Colleges would become standard--standard, at least, as to content.

Drop-out rate. Since the enrollment of all classes is now a matter of record and the data is continually being entered into the system and can be withdrawn anytime, it would now be possible to establish drop-out rates for individual classes, school districts, regions, or for the total state. Drop-out rates by ethnic background, sex, marital status, etc., could also be established. These kind of data are important--but more important, the counseling departments can now be in a position to study current data as to drop-outs and perhaps work directly with the student. The drop-out data is a "side-effect" evaluation factor of the proposed model for recording and reporting job placement data.

In-Class Follow-Through Form F-3

The In-Class Follow-Through Form F-3 is caused to be sent by one of the questions on the Verification of Enrollment Form F-1. The student is asked the anticipated date of employment. If the date is not known, the date the class was to end is recorded. Before either of these dates occur, the computer addresses the F-3 questionnaire to the student asking him for further data. There are eight questions on the form; but for the purpose of the job placement study, the student is asked if he is going to work and if the occupation is one for which he is training, a related occupation, or an unrelated occupation.

An In-Class Follow-Through Form F-3 must be completed for every student who verified enrollment in the class. If the student is now in class at the time the questionnaire is sent out, the instructor or other responsible person will be required to complete the questionnaire in the absence of the student. For those students leaving earlier than originally expected, the instructor would have extra blank cards (also for use if mistakes are made in punching out the wrong holes) on which the student could enter his name and social security number and answer the questions.

A continuous flow of data is now being entered into storage. The data collected thus far, while the student is still in school, is local school data. The individual school would require a complete student's record. The school district or region divisions would require only parts of these data and would have it retrieved from the school's data bank.

Short cut. The recommendations, procedures, and forms described thus far are not unique. Some schools in California already can supply these kind of data. This period of data collection could be considered an in-service training period for both the student and the instructor. The student may be shown how to fill out questionnaires and a list of services he might like to use or subscribe to. (See appendix for Services and Rewards to Students.)

The instructor is training, or helping to train, students so that job placements can take place. The study is evaluating that factor--job placements--directly. It is important that the instructor understands his part in the job placement follow-through study.

Although a follow-up study on job placements can start with the next form (Out-of-Class Follow-Through Form F-4), all the forms described thus far are recommended.

When all the recommended forms are used for reporting job placement follow-through data, the afore listed "Kind of Data Available" are possible plus the following:

1. Start of job placement count.

2. The drop-out rate of individual classes or program could be established--established by ethnic background, sex, age, marital status, and by locale.

3. The drop-out can also be individually identified.

4. Predict enrollment figures for the next term.

5. Partially evaluate individual industrial education classes on job placements and student drop-out basis.

These data and more are the beginning of a continuous follow-through study of job placements.

Out of Class Follow-Through Form F-4

This is the first true follow-through instrument. The Out-of-Class Follow-Through Form F-4 presents the greatest problem. But, with the aid of a computer and the addresses given on Form F-2, and the later corrections, if any, the problem would be greatly simplified--at least at the school and individual level. This Form F-4 is caused to be sent to the former student by one of the following:

1. The completion date of the major

2. The student going to work (a new word is "work-out")

3. Or dropping out of school

The Out-of-Class Follow-Through Form F-4 will be addressed (the first time to permanent home address) to the former student soon after the student leaves school. The In-Class and Out-of-Class Follow-Through Forms F-3 and F-4 are almost identical--only the tense is changed; and they perform about the same functions.

There are four possible addresses to which the Form F-4 is sent. A special EDP program will need to be designed to accommodate the complicity of such a program (see "Mailing Procedures" in the appendix).

The next unnamed form (see the Flow Chart, lower left) is yet to be designed. The suggestion is that as new questions are directed to the system (as a result of having a system), new questions would be designed and mailed to all former students on the student's birthdate, with birthday greetings. Long-term continuity in follow-through studies would open up many new avenues for evaluating industrial education programs.

With or without this last form, job placement follow-through data is now continuously being stored and retrieved from the data bank. The present questions can be factor analyzed and many new questions can be asked of the data bank as a result of feedback and iteration.

Returns. Job placement follow-through data has been collected and analyzed as one factor for evaluating industrial education programs. These data are individual school data, with the individual school being responsible for the collecting and processing. The individual school would perhaps need a greater percentage of returns to properly evaluate individual programs or classes than the district, region, or state, would need to make overall evaluations.

This continuous incoming job placement data, considered on a statewide basis, and for state purposes, would permit new approaches to be taken in collecting, processing, and analyzing data. For instance, sample populations of some particular segment of industrial education could be identified and data retrieved from the data banks to fit the pre-determined sample population.

SUMMARY OF REPORT FORMS

1. The student registers (R-1 or Student Data Transmittal).

2. The student verifies the data (F-1 and F-2).

3. Before the student leaves the class, the In-Class Follow-Through Form F-3 will be completed and after the student leaves the school, the:

4. Out-of-Class Follow-Through Form F-4 will be sent. Current, ongoing data is now available for research; follow-through studies; and local, state, and federal reports.

In accepting almost any part of these recommendations, the degree of sophistication necessary to accomplish the whole is also accepted. Example: (Taken from context) "...the student will be asked for the same information only once" dictates a computer to store, retrieve, and print out the data.

An information storage and retrieval system is possible and necessary, and, in part, exists for properly reporting job placement follow-through data for the California State Department of Education, Bureau of Industrial Education.

CONCLUSION

The need to evaluate California industrial education in general, and job placements in particular, is urgent. Measuring how well industrial education is helping groups with specific needs is even more urgent.

The machinery and know-how and the capabilities of the industrial educators are such that a system, almost any system, once started could not help but succeed. The expense need not be great nor the time long for a data gathering system to begin operating--using present machinery where it exists.

There should be no obstacle great enough to long deter industrial educators from the urgency of evaluating their programs; industrial educators' reactions to evaluations, objectively derived, has relevance to the immediate future of industrial education.

APPENDIX

Report Forms

Services and Rewards

Mailing Procedures

Ethnic Background Letter

Definitions

Bibliography

Recommendations

REPORT FORMS:

STANDARDIZED REGISTRATION FOR JUNIOR COLLEGES, FORM R-1

STUDENT DATA TRANSMITTAL
(For High School)

VERIFICATION OF ENROLLMENT FORM F-1

IN-CLASS FOLLOW-THROUGH FORM F-3

OUT-OF-CLASS FOLLOW-THROUGH FORM F-4

CALIFORNIA STATE DEPARTMENT OF EDUCATIO
BUREAU OF INDUSTRIAL EDUCATIO
FORM R

STANDARDIZED REGISTRATION FORM FOR JUNIOR COLLEGES

☐☐☐ ☐☐ ☐☐☐☐ SOCIAL SECURITY NUMBER

'SE PEN - DO NOT USE NICKNAMES OR ABBREVIATIONS

MUST BE SUBMITTED IN PERSON

IAME

Print one letter per square - LAST name FIRST name MIDDLE initial Leave one square between names

☐ Mr. ☐ Mrs. ☐ Miss

1. ADDRESS WHILE ATTENDING SCHOOL:

Number Street City Zip Code Telephone

2. LEGAL RESIDENCE: Adults (over 21 years of age) and married minors:
I consider my legal address to be: (P. O. Box not accepted)

a. ☐ Same as above
b. ☐ Different from above; it is:

Number Street City County Zip Code State or Foreign Country

3. This must be completed by students under 21 who have not been married: (Please Print)

a. NAME OF LEGAL GUARDIAN _____
Last First Middle

b. RELATIONSHIP OF GUARDIAN TO YOU:

☐ Father ☐ Mother ☐ Other - Specify _____

GUARDIAN'S LEGAL ADDRESS:
c. ☐ Same as student's address while attending school
d. ☐ Same as student's legal residence address
e. ☐ Different from above: _____
Number Street City State Zip Code
(P. O. Box not accepted)

4. IN CASE OF SERIOUS ILLNESS, INJURY, NOTIFY: (Please Print)

NAME: _____
Last First Middle

a. RELATIONSHIP: ☐ Spouse ☐ Immediate Family ☐ Relative ☐ Other

ADDRESS:
b. ☐ Same as student's address while attending school
c. ☐ Same as student's legal residence address
d. ☐ Same as student's guardian's address
e. ☐ Different from above: _____
Number Street City State Zip Code
(P. O. Box not accepted)

5. BIRTHDATE _____
Month Day Year

6. ETHNIC BACKGROUND:

WHITE
☐ Spanish Surname ☐ Other White

NONWHITE
☐ Negro ☐ Chinese Japanese Korean ☐ American Indian ☐ Other Nonwhite

7. MARITAL STATUS

☐ Married ☐ Widowed ☐ Never Married ☐ Divorced ☐ Separated

8. NAME UNDER WHICH TRANSCRIPT(S) WILL ARRIVE (Maiden) _____

9. ATTENDANCE STATUS:

a. Have you previously registered for classes here? ☐ Yes ☐ No

Did you attend? ☐ Yes ☐ No

b. If yes, give dates: From _____ To _____ Was this Summer Session only? ☐ Yes ☐ No

c. Name under which you registered: ☐ Same as maiden name above in Item 8

d. ☐ Same as name at top of this Registration Form

NERAL

e data requested here, for the most part, are required for the proper reporting of job placements as well as other evaluative studies, t the actual form is not. This is a composite of several registration packets from junior colleges offering vocational education and ult schools. This form, and those that follow, asks the student but once for any particular bit of information.

STRUCTIONS FOR FORM R-1

is form must be presented in person. Use pen, and do not use nicknames or abbreviations.

cial Security Number | | | | | | | | | |

Enter the nine digit social security number in the squares provided.

Note: A social security number is required of all students who are taking a vocational class in preparation for employment. Registration should not be considered as complete until a social security number has been recorded here.

ıme

art printing your last name in the squares provided, using one square per letter. After your last name, leave one square and print ur first name. Leave a square after your first name and print your middle initial. Stop when you run out of squares. Be sure to dicate the correct sir title--Mr., Mrs., or Miss.

em 1 -- Enter the address and telephone number of the place you will be staying while attending school. Be sure to include the proper ZIP CODE.

em 2 -- If the address of your "legal residence" is not the same as Item 1, check the box on line 2b and enter your legal residence address on the line provided, again include the proper ZIP CODE.

em 3 -- If you are under 21 years of age and have not been married, this section must be completed. Print legal guardian's name on line 3a and check appropriate box on line 3b, and specify the relationship by writing it in the blank space provided.

Box 3c--Check this box if the address of your legal guardian is the same as the address you use while going to school (Item 1).

Box 3d--Check this box if your legal guardian's address is the same as the address of your legal residence (Item 2).

Box 3e--If the address of your legal guardian is different than any of the above, enter the new address on line 3e.

em 4 -- Print the name of the person to be notified in case of serious illness or injury, and check the appropriate box on line 4a.

Box 4b--Check this box if the address of the person just named is the same as the address you use while going to school (Item 1).

Box 4c--Check this box if the address of the person just named is the same as the address of your legal residence (Item 2).

Box 4d--Check this box if the address of the person just named is the same as your legal guardian's address (Item 3).

Box 4e--If the address of the person to be notified in case of serious illness or injury is different than any of the above, enter the new address on line 4e.

em 5 -- Enter birthdate: month, day, and year.

m 6 -- Check the appropriate box under "White" or "Nonwhite".

em 7 -- Check the box under Item 7 that indicates your present marital status.

em 8 -- If transcripts are needed from other schools and are under a different name than used on this registration form, enter that name on Item 8.

em 9 -- Answer the questions of Item 9 and check the appropriate boxes on line 9a. If you have attended this school before, enter those dates on line 9b and check the last box on line 9b if this was summer session only.

Box 9c--Check this box if the name you previously registered under was the same as Item 8.

Box 9d--Check this box if there has been no change of name for registration.

10. ENROLLMENT PLAN:

☐ A two-year degree ☐ General education courses to transfer to a four-year college ☐ On the Job Training ☐ MDTA ☐ Completion Certificate

☐ Adult ☐ High School

☐ Apprentice ☐ Off-Campus ☐ Specified business courses ☐ Trade Extension Supplementary Education

11. CHECK EDUCATIONAL BENEFITS YOU INTEND TO DRAW:

☐ 1966 G. I. Bill ☐ Vet Dependent ☐ War Orphan ☐ Vocational Rehabilitation ☐ Disabled Vet ☐ Other

12. PRESENT OCCUPATION, IF ANY _____ How many hours per week? _____

13. CHECK HIGHEST GRADE COMPLETED IN GRADE SCHOOL.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8

14. EDUCATIONAL BACKGROUND: Warning: No applicant may ignore previous schooling if transcripts are required. New applicants--instruct each school you list below to mail transcripts directly to us. Applicants for readmission--list and file transcripts from all colleges attended after you ceased attending this college.

Name of High School Last Attended	City	State	Attendance Dates From	Attendance Dates To	Last Grade Completed (If not a graduate)	Date Graduated

15.

Name of Other College/University	City	State	Attendance Dates From	Attendance Dates To	Approximate Units Completed	Grade Point Average	Degree (If Any)
A.							
B.							
C.							

16. IF ANY OF THE ABOVE COLLEGES ATTENDED ARE IN CALIFORNIA, WERE YOU CLASSIFIED A CALIFORNIA RESIDENT? ☐ Yes ☐ No

17. BIRTHPLACE: _____ (City) _____ (State or Country) HEIGHT _____ (Feet - Inches) WEIGHT _____ (Pounds)

Are you an American Citizen? ☐ Yes ☐ No If no, indicate type of Visa: _____

18. HAVE YOU HAD A SERIOUS HEALTH PROBLEM, INJURY, OR SURGERY? ☐ Yes ☐ No

a. If yes explain _____

19. FOR SCHOOL USE ONLY: ☐☐ ☐☐☐ ☐☐☐☐

SCHOOL CODE

I understand that I am responsible for having official transcripts of any high school and previous college record sent directly to this college before I will be permitted to register for classes. I also certify that I have listed above all schools or colleges attended after high school graduation, and THAT I HAVE NOT BEEN DISQUALIFIED FROM LAST SCHOOL OF ATTENDANCE.

DATE _____ SIGNATURE _____

1 10 -- Check the squares that describe the type of enrollment plan you will be under at this time.

1 11 -- Check the educational benefits, if any, you intend to draw while in school at this time.

1 12 -- If you are working, or intend to work while at school, enter the name of the occupation in Item 12 and how many hours you expect to work per week.

1 13 -- Check the box which indicates the highest year you completed in grade or elementary school.

1 14 -- Complete as directed.

1 15 -- Complete as directed.

1 16 -- If any of the colleges listed in Item 16 are in California, were you classified as a California resident? (Check the appropriate box.)

1 17 -- Enter birthplace: city, state or country. Enter height: feet, inches; weight: pounds.

Indicate citizenship by marking a "yes" or "no" answer. If you are not a citizen indicate the type of visa you will be using while attending school.

18 -- Any health problem, or handicap, that would detract from your school work should be noted here and the appropriate box checked.

19 -- For school use only. Enter all school codes necessary for proper identification by EDP. The boxes can contain the present code used by the State Department of Education, Bureau of Industrial Education.

er today's date and sign your name in the spaces provided.

STUDENT DATA TRANSMITTAL
EDUCATIONAL DATA PROCESSING CENTER

DATE

STUDENT NAME

1. INDICATE CHANGES OR ADDITIONS IN RED ABOVE BOXES TO BE CORRECTED.
2. CHECK TYPE OF TRANSACTION MADE ON THIS TRANSMITTAL.
   1. NEW ENROLLEE _____
   2. CHANGE _____
   3. WITHDRAWAL _____

COUNTY (1)	DISTRICT (2)	SCHOOL (3)	STUDENT NUMBER (4)	SCHOOL NAME

A

STUDENT NAME - LAST, FIRST, MIDDLE (5)	BIRTH DATE (6)		DATE ENROLLED (8)	GR (9)	SEX (10)	HM. RM. (11)	COUNSELOR - TEACHER (12)	CO. (13)	DIST. (14)	RESIDENCE ATTEND. (15)

B

STREET ADDRESS (16)	CITY (17)	ZIPCODE (18)	HOME TELEPHONE NO. (19)

ACTUAL BEGINNING SCHOOL MONTH (20) _____

C

(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)

COURSE SECTION NUMBERS

BIRTHPLACE - STATE (29)

D

PARENT OR GUARDIAN NAME (30)	IF PARENT NOT HOME CONTACT (31)	TELEPHONE NO. (32)	POLIO (33)	HEALTH (34)	PL 874 (35)	DR. TR. (36)	1ST AID (37)	ETC (38)

IN CASE OF EMERGENCY

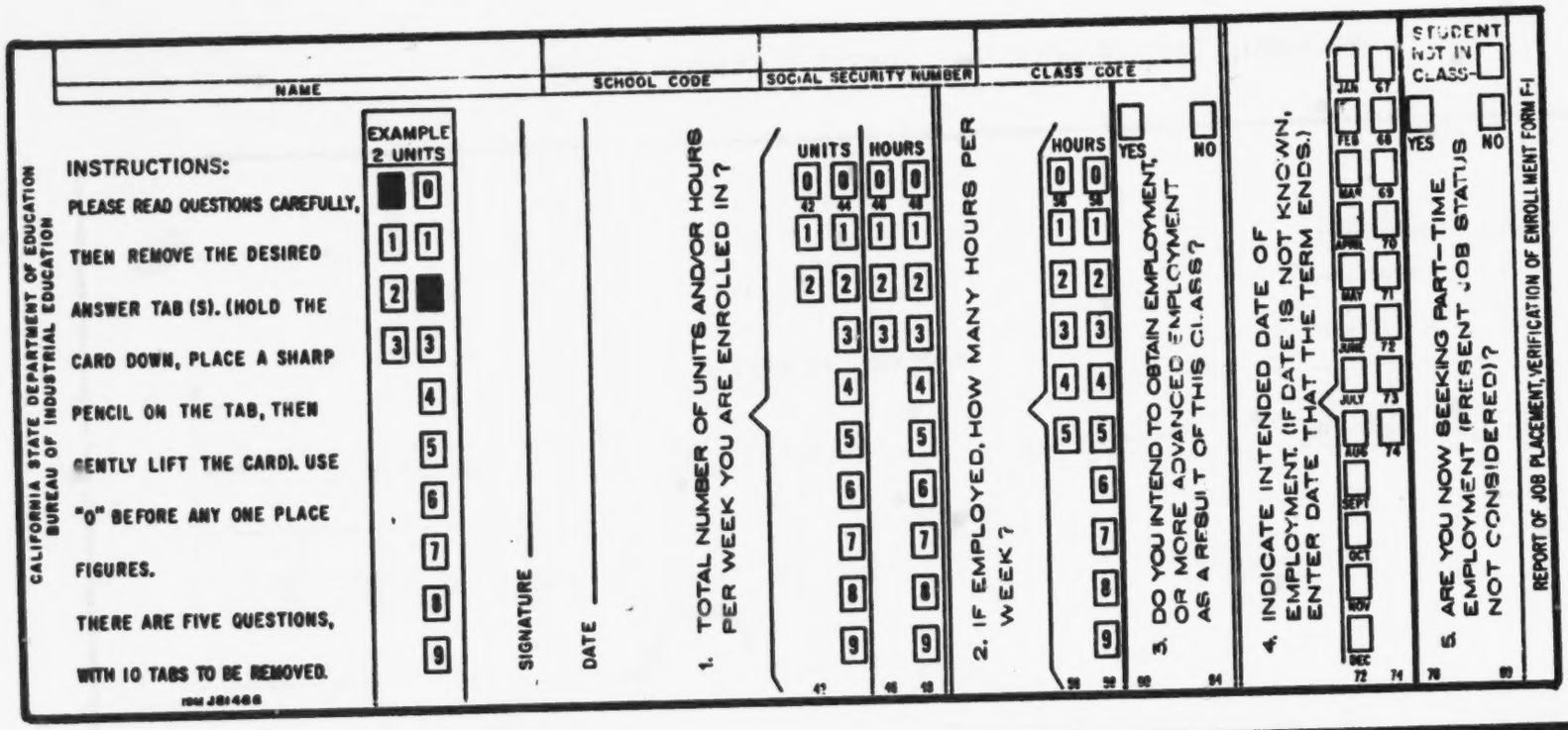
REASON FOR WITHDRAWAL _____

WITHDRAWAL DATE _____ MO. _____ DAY _____ YR.

LAST SCHOOL MONTH ATTENDED _____

REDPIO MF1 (9-66)

Student Data Transmittal - High School Students


NAME
SCHOOL CODE
SOCIAL SECURITY NUMBER
CLASS CODE
CALIFORNIA STATE DEPARTMENT OF EDUCATION
BUREAU OF INDUSTRIAL EDUCATION
INSTRUCTIONS:
PLEASE READ QUESTIONS CAREFULLY, THEN REMOVE THE DESIRED ANSWER TAB (S). (HOLD THE CARD DOWN, PLACE A SHARP PENCIL ON THE TAB, THEN GENTLY LIFT THE CARD). USE "0" BEFORE ANY ONE PLACE FIGURES.
THERE ARE FIVE QUESTIONS, WITH 10 TABS TO BE REMOVED.
IBM J81466
EXAMPLE 2 UNITS
SIGNATURE
DATE
1. TOTAL NUMBER OF UNITS AND/OR HOURS PER WEEK YOU ARE ENROLLED IN?
UNITS
HOURS
2. IF EMPLOYED, HOW MANY HOURS PER WEEK?
HOURS
3. DO YOU INTEND TO OBTAIN EMPLOYMENT, OR MORE ADVANCED EMPLOYMENT AS A RESULT OF THIS CLASS?
YES
NO
4. INDICATE INTENDED DATE OF EMPLOYMENT. (IF DATE IS NOT KNOWN, ENTER DATE THAT THE TERM ENDS.)
JAN 67
FEB 68
MAR 69
APRIL 70
MAY 71
JUNE 72
JULY 73
AUG 74
SEPT
OCT
NOV
DEC
STUDENT NOT IN CLASS-
5. ARE YOU NOW SEEKING PART-TIME EMPLOYMENT (PRESENT JOB STATUS NOT CONSIDERED)?
YES
NO
REPORT OF JOB PLACEMENT, VERIFICATION OF ENROLLMENT FORM F-1

Report of Job Placement

Verification of Enrollment
Form F-1

(Front)

(Back)

INSTRUCTIONS FOR FORM F-1:

The student, with the help of the instructor, will check the data already entered, read the questions, and punch out the boxes as described in the instructions. Any errors on the card should be brought immediately to the attention of the EDP department.

The student will sign one card for every vocational class he is in. If the student is not enroiled in the class at the time this form is sent out, the instructor is to return the card, indicating in the "box" in the upper right hand corner of the sheet that the student is not in the class. This is a "verification of enrollment" so only students who are presently in the class are to be counted.

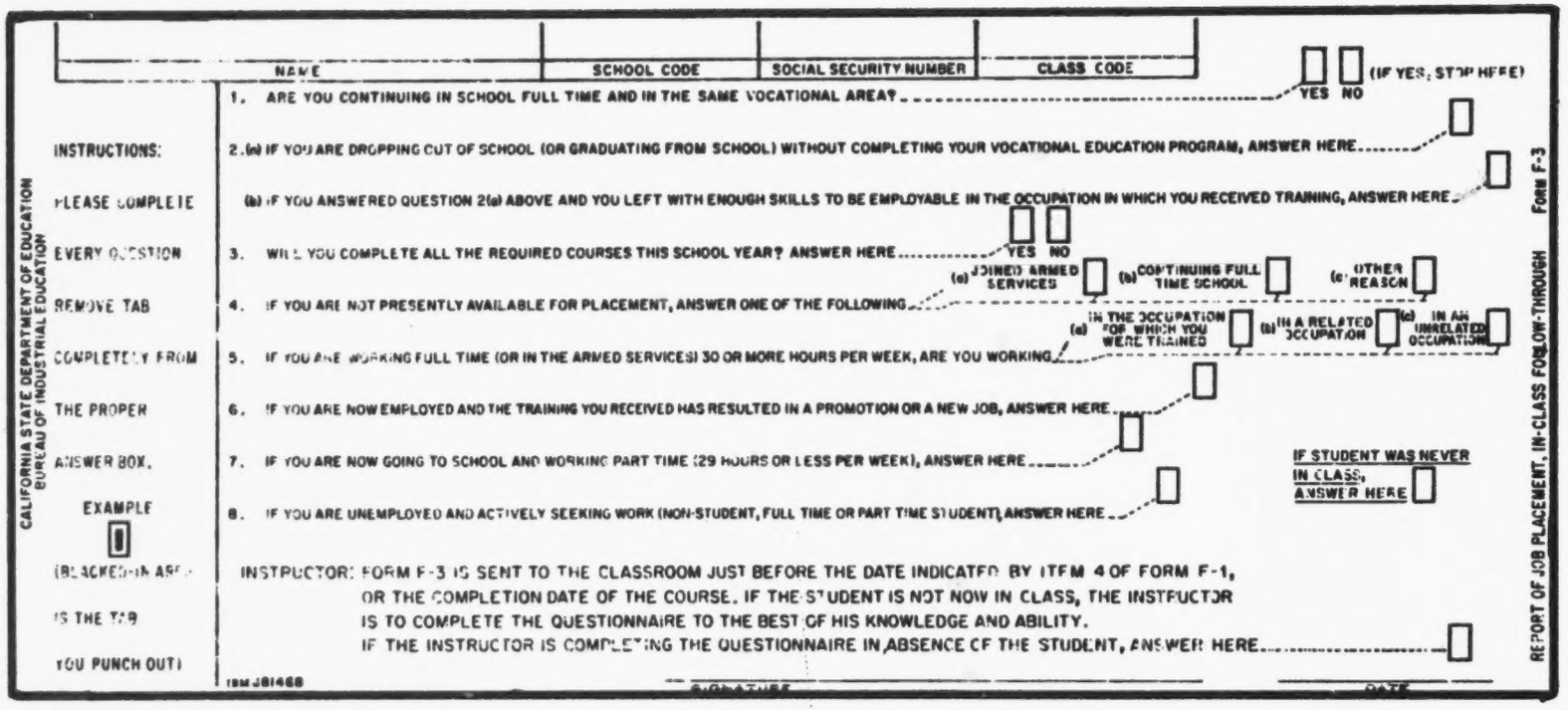
The data on this form is added to the student's record and stored. This questionnaire would answer such questions as: How many students are now entered in a particular trade area, or areas? When will they be ready for employment?

ITEM 1- Enter the units and/or hours for the purpose of determining "full-time" or "part-time" school status of the student.

ITEM 2- Enter number of hours of gainful employment, if working, including work study and on-the-job training, for the purpose of determining "full-time" or "part-time" work status of the student.

ITEM 4- If the class, by itself, is designed to prepare a person for employment, enter the date that most clearly indicates his readiness for employment. If the class is not designed to fit the student for employment, enter the date of course completion. This item is also for the trade extension or supplementary education student who advances on the job or gets a new job.

IBM J81467



CALIFORNIA STATE DEPARTMENT OF EDUCATION
BUREAU OF INDUSTRIAL EDUCATION

NAME | SCHOOL CODE | SOCIAL SECURITY NUMBER | CLASS CODE

INSTRUCTIONS:
PLEASE COMPLETE
EVERY QUESTION
REMOVE TAB
COMPLETELY FROM
THE PROPER
ANSWER BOX.

EXAMPLE
(BLACKED-IN AREA
IS THE TAB
YOU PUNCH OUT)

1. ARE YOU CONTINUING IN SCHOOL FULL TIME AND IN THE SAME VOCATIONAL AREA? YES NO (IF YES, STOP HERE)
2.(a) IF YOU ARE DROPPING OUT OF SCHOOL (OR GRADUATING FROM SCHOOL) WITHOUT COMPLETING YOUR VOCATIONAL EDUCATION PROGRAM, ANSWER HERE
(b) IF YOU ANSWERED QUESTION 2(a) ABOVE AND YOU LEFT WITH ENOUGH SKILLS TO BE EMPLOYABLE IN THE OCCUPATION IN WHICH YOU RECEIVED TRAINING, ANSWER HERE
3. WILL YOU COMPLETE ALL THE REQUIRED COURSES THIS SCHOOL YEAR? ANSWER HERE YES NO
4. IF YOU ARE NOT PRESENTLY AVAILABLE FOR PLACEMENT, ANSWER ONE OF THE FOLLOWING (a) JOINED ARMED SERVICES (b) CONTINUING FULL TIME SCHOOL (c) OTHER REASON
5. IF YOU ARE WORKING FULL TIME (OR IN THE ARMED SERVICES) 30 OR MORE HOURS PER WEEK, ARE YOU WORKING (a) IN THE OCCUPATION FOR WHICH YOU WERE TRAINED (b) IN A RELATED OCCUPATION (c) IN AN UNRELATED OCCUPATION
6. IF YOU ARE NOW EMPLOYED AND THE TRAINING YOU RECEIVED HAS RESULTED IN A PROMOTION OR A NEW JOB, ANSWER HERE
7. IF YOU ARE NOW GOING TO SCHOOL AND WORKING PART TIME (29 HOURS OR LESS PER WEEK), ANSWER HERE
8. IF YOU ARE UNEMPLOYED AND ACTIVELY SEEKING WORK (NON-STUDENT, FULL TIME OR PART TIME STUDENT), ANSWER HERE

IF STUDENT WAS NEVER IN CLASS, ANSWER HERE

INSTRUCTOR: FORM F-3 IS SENT TO THE CLASSROOM JUST BEFORE THE DATE INDICATED BY ITEM 4 OF FORM F-1, OR THE COMPLETION DATE OF THE COURSE. IF THE STUDENT IS NOT NOW IN CLASS, THE INSTRUCTOR IS TO COMPLETE THE QUESTIONNAIRE TO THE BEST OF HIS KNOWLEDGE AND ABILITY.
IF THE INSTRUCTOR IS COMPLETING THE QUESTIONNAIRE IN ABSENCE OF THE STUDENT, ANSWER HERE

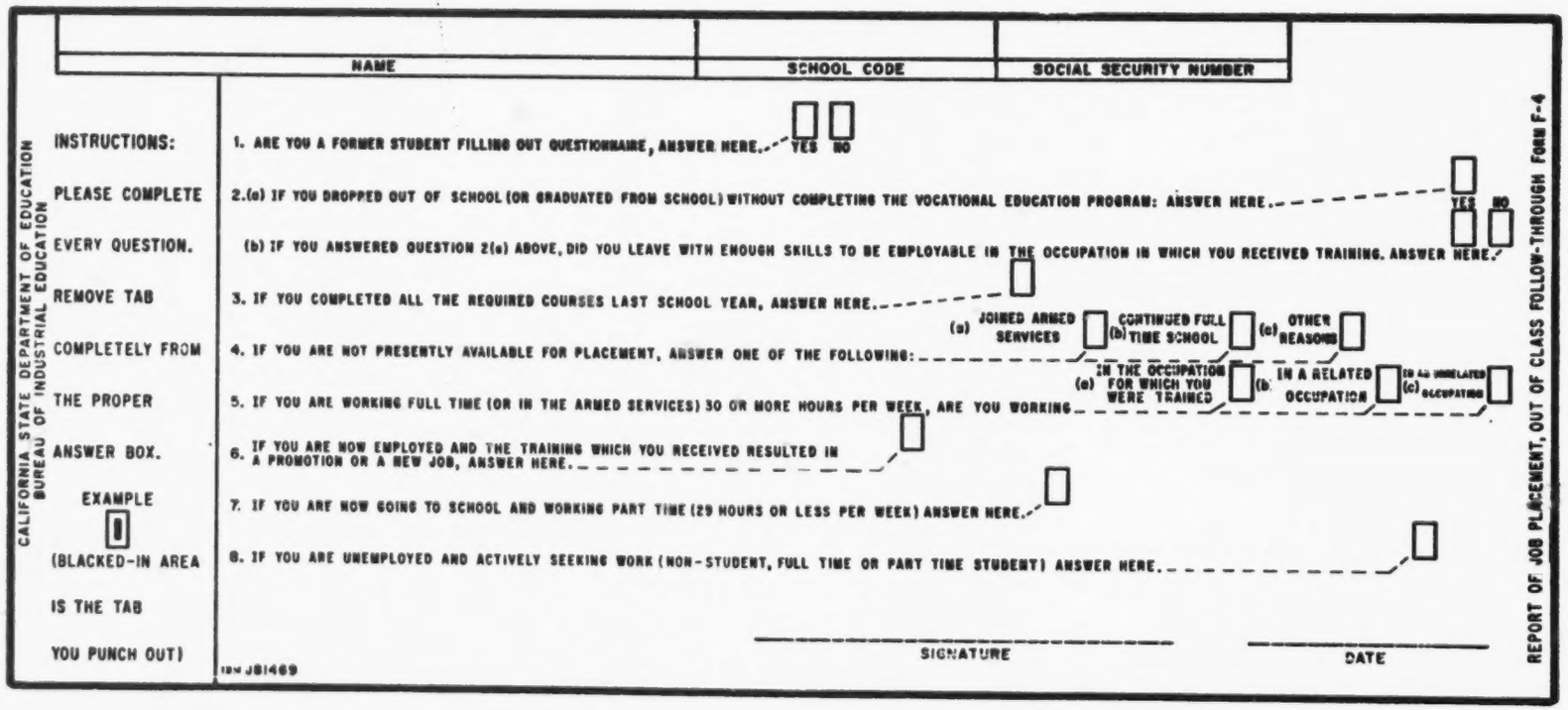
IBM JB1468

SIGNATURE DATE

REPORT OF JOB PLACEMENT, IN-CLASS FOLLOW-THROUGH Form F-3

Report of Job Placement

In-Class Follow-Through Form F-3



CALIFORNIA STATE DEPARTMENT OF EDUCATION
BUREAU OF INDUSTRIAL EDUCATION

NAME | SCHOOL CODE | SOCIAL SECURITY NUMBER

INSTRUCTIONS:
PLEASE COMPLETE
EVERY QUESTION.
REMOVE TAB
COMPLETELY FROM
THE PROPER
ANSWER BOX.

EXAMPLE
(BLACKED-IN AREA
IS THE TAB
YOU PUNCH OUT)

1. ARE YOU A FORMER STUDENT FILLING OUT QUESTIONNAIRE, ANSWER HERE. YES NO
2.(a) IF YOU DROPPED OUT OF SCHOOL (OR GRADUATED FROM SCHOOL) WITHOUT COMPLETING THE VOCATIONAL EDUCATION PROGRAM: ANSWER HERE. YES NO
(b) IF YOU ANSWERED QUESTION 2(a) ABOVE, DID YOU LEAVE WITH ENOUGH SKILLS TO BE EMPLOYABLE IN THE OCCUPATION IN WHICH YOU RECEIVED TRAINING. ANSWER HERE.
3. IF YOU COMPLETED ALL THE REQUIRED COURSES LAST SCHOOL YEAR, ANSWER HERE.
4. IF YOU ARE NOT PRESENTLY AVAILABLE FOR PLACEMENT, ANSWER ONE OF THE FOLLOWING: (a) JOINED ARMED SERVICES (b) CONTINUED FULL TIME SCHOOL (c) OTHER REASONS
5. IF YOU ARE WORKING FULL TIME (OR IN THE ARMED SERVICES) 30 OR MORE HOURS PER WEEK, ARE YOU WORKING (a) IN THE OCCUPATION FOR WHICH YOU WERE TRAINED (b) IN A RELATED OCCUPATION (c) IN AN UNRELATED OCCUPATION
6. IF YOU ARE NOW EMPLOYED AND THE TRAINING WHICH YOU RECEIVED RESULTED IN A PROMOTION OR A NEW JOB, ANSWER HERE.
7. IF YOU ARE NOW GOING TO SCHOOL AND WORKING PART TIME (29 HOURS OR LESS PER WEEK) ANSWER HERE.
8. IF YOU ARE UNEMPLOYED AND ACTIVELY SEEKING WORK (NON-STUDENT, FULL TIME OR PART TIME STUDENT) ANSWER HERE.

SIGNATURE DATE

IBM JB1469

REPORT OF JOB PLACEMENT, OUT OF CLASS FOLLOW-THROUGH Form F-4

Out-of-Class Follow-Through Form F-4

SERVICES AND REWARDS

Hypothesis. Students or former students would be more apt to answer questionnaires if they could foresee some benefits or reward for doing so. The following items are suggested as possible services (rewards) that might be offered to students for answering the questionnaires:

1. Job placement service. Job placement services are now offered by many schools independently or in conjunction with the California State Department of Employment. A further service to industrial education students might be to offer job placement service on a statewide basis for the lifetime of the student. A lifetime record of the student's training program and the jobs held would provide valuable data for long-term follow-up evaluations of industrial education programs.

2. Class schedule. The current class schedule could be mailed with the questionnaire. The study recommends that follow-through questionnaires go out on the student's birthdate each year. Some birthdates would not coincide with the effective date of the schedule. By comparing returns of those who get schedules as against those who do not, a measure could be made of whether or not the reward was effective. (Testing the hypothesis!!!)

3. Transcript services for industrial education students. To make this needed service possible, several events must occur:

(a) Standard student identification, such as using the social security number as recommended in this study

(b) A central data bank, or a method of collecting data from scattered data banks

(c) Directory of industrial education classes (such a directory would permit finding classes to fit individual needs)

(d) Cooperation of the non-industrial education part of the school (academic) so that transcript records could be complete

A recommendation of this study suggests that all students use the standardized registration form and that enrollment be used to identify the industrial education students. It would be only a short step to include all students--not just industrial education students--and offer a statewide clearing house for transcripts.

4. Occupational information. The making of occupational choices is becoming more difficult for individuals. Offering such services as an occupational information storage and retrieval system, occupational counseling and advising, and occupational testing services might be considered as rewards.

5. Vocational counseling. Vocational counseling, although a regular part of any industrial education program, could still be considered as a reward or a special service to a former student.

6. Scholarship, loan assistance, work study program. Any of the special services offered by schools are rewards for being, or having been, a student. The continued offering of these services could be an inducement for

the student to participate in a follow-through study. There is also a growing need for an information storage and retrieval system for scholarship and loan information.

7. An aid in college choice. An industrial education program probably exists for every individual's educational need. Getting the two together is the problem. A statewide directory of industrial education programs, and a library of college catalogues (both two- and four-year colleges) would aid materially in satisfying this need. This aid or service is needed for all students--not just industrial education students. This would be a service to offer students going on with their education after completing an industrial education program.

8. Directory of industrial education programs. The data collected from the Verification of Enrollment Form F-1, as recommended in this study, will include a standardized code number for all industrial education classes and schools. A print-out of the interpretation of these codes would be a directory of industrial education programs. The directory would help materially in finding the right industrial education program for students with specific needs.

9. Other educational opportunities. Offer information on other educational opportunities such as extension or correspondence courses and courses offered by industry or other social organizations. Public and private schools, community, and industry would supply this information as a service to former students.

10. Government educational services. Notify students of the different local, state, and federal vocational education programs, such as the Manpower Development and Training Act, Vocational Education Act of 1963, etc.

11. Directory of community services. Educational opportunities are only a part of the student needs. Offering information on other community services, such as health, rehabilitation, social welfare, employment testing, recreation, and so forth would equally be considered as rewards for participating in a follow-through study. Some cities in California have directories of health, welfare, and recreation agencies. A service to students and to the community would be the dissemination of this information.

12. Testing services. The testing services of counseling departments could be made available to former students needing to make changes in their occupation choice.

ate of California

Department of Education

(A COPY)

Memorandum

: Richard S. Nelson, Chief

Date : May 1, 1967

File No.:

om : Wilson C. Riles, Director
Office of Compensatory Education

ubject: INDUSTRIAL EDUCATION INFORMATION SURVEY

In answer to your inquiry as to the use of an ethnic background question in the proposed Information Storage and Retrieval System for Reporting Job Placement Data of Persons Trained in Industrial Education Programs in California Public Schools, this office, in reviewing the regulations concerning the uses of such a question, can find no objections to its use as presently worded.

The information as you have proposed to collect it would provide more accurate data for evaluating industrial education programs in relation to their meeting the special needs of students.

WCR:MB:sar
cc: Wayne M. Harris, Special Project Consultant
Bureau of Industrial Education

MAILING PROCEDURES

Specifications for the Out-of-Class Follow-Through Form F-4, Electronic Data Processing and Mailing Program

There are four possible addresses on the Standardized Registration for Junior Colleges Form R-1. All four addresses are to be exhausted before a "stop" order is given to the computer or EDP procedures.

Specifications:

1. First-class mail to the addressee, return postage guaranteed

2. Return postage enclosed (or return card)

3. Addressor's address preprinted on return questionnaire

4. Return card ready for machine processing (when the prescored response tab is removed by hand punching, the card becomes machine readable)

5. All operations are automatic:

   (a) The addressing of the form, from previous data

   (b) The noting of any transaction of the mailed form

   (c) Starting other steps, such as ma'ling the second card to the same address, returning the same questionnaire for "changes," etc.

   (d) All correct returns stored for later retrieval

6. Return card complete within itself (there should be little or no clerical work involved in the follow-through mailing program. Every step should be completely automated because of the volume of students to be studied on a continuing basis.)

The questionnaire part of the Out-of-Class Follow-Through Form F-4 has been designed, but the actual processes and EDP programs to be used to send and receive the questionnaire have not been designed. One recommendation was to use a continuous, preprinted form so the student's address can be printed by computer or EDP. Two cards hinged end-to-end would be inserted in a window envelope, with the addressee's address showing. The back of this card would be birthday greetings, etc., and instructions for answering the questionnaire. The other card would contain the questions and response positions, with the addressor's address on the reverse side.

There are many other processes, but availability of machinery and degree of automation desired must be considered before an actual design is stabilized.

DEFINITIONS OF TERMS USED IN INDUSTRIAL EDUCATION

California State Department of Education
Bureau of Industrial Education
Sacramento, 1967

The following terms were selected from Definitions of Terms in Industrial Education, published by the Bureau of Industrial Education, Richard S. Nelson, Chief, Sacramento, California, 1967.

ADULT VOCATIONAL EDUCATION

-instruction offered day or evening to adults or out-of-school youth over 16 years of age who are engaged in or are preparing to enter an occupation. Vocational education for adults is chiefly of an upgrading and updating nature, offered on a part-time basis, or of a retraining nature for persons displaced by automation or technological changes.

ADVISORY COMMITTEE

-a group of persons, usually outside the educational profession, selected for the purpose of offering advice and counsel to the school regarding the vocational program. Members are representatives of the people who are interested in the activities with which the vocational program is concerned. (See also craft advisory committee.)

COUNSELOR, GUIDANCE

-an experienced and trained person who helps another individual to understand himself and his opportunities, to make appropriate adjustments, decisions, and choices in the light of his unique characteristics, and to initiate a course of training or work in harmony with his selection.

COURSE OF STUDY

-an inclusive outline of the objectives, experiences, skills, projects, demonstrations, related information, and methods involved in teaching a school subject, covering a specified period of time.

EVALUATION

-a term used in education indicating the procedure for determining the effectiveness of instruction.

FOLLOW-UP STUDY, VOCATIONAL

-a survey to determine what occupations the students and graduates of vocational education courses enter and how effective their training was in relationship to actual needs of the job.

GENERAL INDUSTRIAL COURSE

-a class organized to give specific preparation for an occupation in a group where shop instruction in several closely allied trades is conducted simultaneously. Courses may be organized to give preparation for one or more production jobs that do not fall into the trade classification.

GUIDANCE SERVICES

-those activities which have as their purpose helping pupils assess and understand their abilities, aptitudes, interests, environmental factors, and educational needs; assisting pupils in increasing their understandings of educational and career opportunities; and, aiding pupils in making optimum use of educational and career opportunities through the formulation of realistic goals. These activities include counseling pupils and parents, evaluating the abilities of pupils, assisting pupils to make their own educational and career plans and choices, assisting pupils in personal and social adjustment, and working with other staff members in planning and conducting guidance programs.

GUIDANCE, VOCATIONAL

-the process of assisting individuals to understand their capabilities and interests, to choose a suitable vocation, and to prepare for, enter, and make successful progress in it.

INDUSTRIAL EDUCATION

-a generic term applying to all types of education related to industry, including industrial arts education, vocational industrial education (trade and industrial education), and much technical education.

IN-SERVICE TRAINING FOR TEACHERS

-instruction and supervision for employed instructional personnel for the purpose of improving their professional abilities.

JOB

-a specific, assigned task which provides the media by which the student practices and develops skills for an occupation.

JUNIOR COLLEGE

-an institution of higher education which offers the first two years of college instruction, frequently grants an associate degree, and does not grant a bachelor's degree. Offerings include transfer and/or terminal programs (with an immediate employment objective) at the post-secondary instructional level and also may include adult education programs. It is an independently organized institution (public or non-public) or an institution which is a part of the public school system or an independently organized system of junior colleges. The term does not refer to the lower division of a four-year institution, even if this lower division is located on a campus entirely different from the campus of the parent institution. (See community college.)

OCCUPATIONAL INFORMATION

-systematically organized data used by guidance personnel for the purpose of helping persons make a vocational choice. Material concerns the nature of the work, duties, responsibilities, and compensations involved in the several vocations, including information about employment outlook, promotional opportunities, and entrance requirements.

ON-THE-JOB TRAINING

-instruction in the performance of a job given to an employed worker by the employer during the usual working hours of the occupation. Usually the minimum or beginning wage is paid.

PART-TIME PROGRAMS, VOCATIONAL

-programs conducted for workers during the usual working hours of the occupation. The three general kinds follow:

Part-time trade extension classes--instruction given to employed workers for the purpose of increasing or extending their skill and knowledge in the trade or occupation in which they are or have been engaged.

Part-time trade preparatory classes--instruction given to workers who have left the full-time school for the purpose of fitting themselves for useful employment in trades, occupations, or fields of industry other than those in which they are or have been employed.

Part-time general continuation classes--instruction given to employed persons for the purpose of enlarging their civic or vocational intelligence. Instruction is not confined to trade or industrial pursuits but may cover any subject relative to civic or vocational needs offered to workers who return to the school during their usual working hours.

PLACEMENT SERVICE

-assistance in helping persons to locate work, either part-time or full-time in the field for which they are trained, which is consistent with their abilities, experiences, and backgrounds. When offered by the school, it is a phase of the vocational guidance program and involves liaison with employers to learn of job vacancies and success or failure factors of student-learners or graduates.

PRE-EMPLOYMENT TRAINING

-organized, brief, intensive instruction for entrance into employment in a specific job or retraining for workers leading to new duties or a new position.

PREPARATORY TRAINING

-programs preparing enrollees for employment.

PRIVATE VOCATIONAL SCHOOL

-a school established and operated by an agency other than the state or its subdivisions, and supported by other than public funds, which has as its purpose the preparation of students for entrance into or progress in trades or other skilled occupations.

PUBLIC VOCATIONAL SCHOOL

-a secondary school under public supervision and control and supported by public funds which provides instruction that will enable high school youth and adults to prepare for, enter, and make progress in a skilled trade or occupation of their choice.

REIMBURSABLE VOCATIONAL PROGRAM

-a class or curriculum--offered through a public school, teacher training institution or under contract--which is organized and conducted in accordance with the provisions of the state plan for vocational education approved by the U. S. Office of Education. Such programs are eligible to receive funds from the state (from state and federal vocational education appropriations) to cover in part certain costs already incurred. Whether or not aid actually is received is immaterial.

SURVEY, OCCUPATIONAL

-an investigation and evaluation to gather pertinent information about a single industry or the occupations of an area to determine the need for training, the prevalent practices, the labor supply and turnover, for the purpose of maintaining the vocational program at a realistic level.

SURVEY, VOCATIONAL EDUCATION

-a study to obtain necessary information as a basis for the proper development of programs of vocational education. It serves to identify the needs for vocational training, recommend suitable types of classes, assist in the development of new instructional processes, and evaluate the results of work already done.

TEACHER CERTIFICATION

-the approval action, based on minimum standards adopted in the state, taken by legally authorized school authorities on the professional and technical qualifications of teachers.

TECHNICAL EDUCATION

-education to earn a living in an occupation in which success is dependent largely upon technical information and understanding of the laws of science and principles of technology as applied to modern design, production, distribution, and service.

TECHNICIAN (INDUSTRIAL)

-a worker on a level between the skilled tradesman and the professional scientist or engineer. His technical knowledge permits him to assume some duties formerly assigned to the graduate engineer or scientist. For example, technicians may design a mechanism, compute the cost, write the specifications, organize the production, and test the finished product. There are technicians in other occupational fields.

TRADE AND INDUSTRIAL EDUCATION CLUBS

-organizations composed of vocational industrial education students whose objectives are to develop leadership qualities as they perfect their shop skills and knowledges. (Also called Vocational Industrial Clubs.)

TRADE EXTENSION CLASS

-(See part-time programs, vocational.)

VOCATIONAL EDUCATION

-education designed to develop skills, abilities, understandings, attitudes, work habits and appreciations, encompassing knowledge and information needed by workers to enter and make progress in employment on a useful and productive basis. It is an integral part of the total education program and contributes toward the development of good citizens by developing their physical, social, civic, cultural, and economic competencies.

VOCATIONAL EDUCATION ACT OF 1963 (PUBLIC LAW 88-210)

-enacted "to authorize federal grants to states to assist them to maintain, extend, and improve existing programs of vocational education, to develop new programs of vocational education, and to provide part-time employment for youths who need the earnings from such employment to continue their vocational training on a full-time basis, so that persons of all ages in all communities of the states--those in high school, those who have completed or discontinued their formal education and are preparing to enter the labor market, those who have already entered the labor market but need to upgrade their skills or learn new ones, and those with special educational handicaps--will have ready access to vocational training or retraining which is of high quality, which is realistic in the light of actural or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and ability to benefit from such training."

VOCATIONAL SCHOOL

-a school which is organized separately under a principal or director for the purpose of offering training in one or more skilled or semiskilled trades or occupations. It is designed to meet the needs of high school students preparing for employment and to provide upgrading or extension courses for those who are employed.

VOCATIONAL SUBJECT

-any school subject designed to develop specific skills, knowledges, and information which enable the learner to prepare for or to be more efficient in his chosen trade or occupation.

WORK EXPERIENCE

-employment undertaken by a student while attending school. The job may be designed to provide practical experience of a general character in the work-a-day world.

WORK EXPERIENCE EDUCATION (OCCUPATIONAL EXPERIENCE)

-employment undertaken as part of the requirements of a school course and designed to provide planned experiences, in the chosen occupation, which are supervised by a teacher-coordinator and the employer.

BIBLIOGRAPHY

1. Dearden, John
   How to Organize Information Systems, Harvard Business Review, March-April, 1965 (pp. 65-73).

2. Gentle, Edgar C. (edited by)
   Data Communication in Business, An Introduction (Instructor's Edition) Tele-Computer Center, American Telephone & Telegraph Company, 1965 (p. 32).

3. Goldstein, Willard
   The County Office and What It Can Do for School Districts With or Without Their Own Data Processing Equipment, Journal of Educational Data Processing, Vol. 3, Number 1, Winter 1965-66, (p. 4).

4. Grossman, Alvin -- Howe, Robert L.
   Regional Education Data Processing in the State of California, Journal of Educational Data Processing, Vol. 2, Number 4, Fall 1965 (p. 127).

5. Mailey, Patrick J.
   Follow-up Study Vocational Preparatory Students, A Proposed System for the State of Washington, State Superintendent of Public Instruction, Olympia, Washington, August, 1966.

6. Manatt, Richard P.
   Centralized Processing of Pupil Personnel Data for Iowa Schools, Iowa State University, 1964.

7. Science American
   A Comprehensive Review of the Extraordinary New Technology of Information, a Science American Book, W. H. Freeman & Co., San Francisco, California, 1966.

8. State University of Iowa
   A Computer Based Educational Information Center, Iowa Educational Information Center (no other information).

9. System Development Corporation
   Proceedings of the Symposium, Development and Management of a Computer-Centered Data Base, Corporate Communications BRT-41, January, 1964.

10. Vocational Education Information System (VEIS)
    Contract OE-5-99-170, Preliminary Report, Department of Health, Education, and Welfare, Office of Education by Federal Electric Corporation, Paramus, N. J., 1966.

11. Yarbrough, L. Everett
    The Florida Project: A System for Processing Educational Data Electronically, Journal of Educational Data Processing, Vol. 3, Number 2, Spring, 1966 (p. 58).

A PROPOSED MODEL FOR AN INFORMATION STORAGE AND RETRIEVAL SYSTEM FOR REPORTING JOB PLACEMENT FOLLOW-THROUGH DATA OF PERSONS TRAINED IN INDUSTRIAL EDUCATION PROGRAMS IN CALIFORNIA PUBLIC SCHOOLS

Recommendations are:

1. Field tests be conducted in at least three school districts during the school year 1967-68.

2. EDP programs be written to comply with the recommendations and requirements of "the system."*

3. Standardized registration forms be used in conjunction with standard codes for schools and classes, and that social security numbers be used to identify students.

4. "The system" once started will continually collect data from students for their lifetime of education and work.

5. Services to students, such as continued educational opportunities, occupational counseling, job placement, transcript service, etc., will become a part of the follow-through evaluative process.

6. "The system" remain versatile enough to accept new factors for additional evaluations of industrial education.

7. Industrial educators be forward-looking enough to accept new EDP methods, such as optical mark sensing or optical character readers, when they become operational.

8. Prescored IBM Port-a-Punch cards (questionnaires) be used to start "the system," because of availability of processing equipment.

9. "The system" will work very close with, or become a part of, the California Regional Educational Data Processing Centers (4).

10. "The system" use the California Regional EDP Center's Student Data Transmittal form for registering industrial education high school students.

11. The efforts of this study be closely coordinated with any proposed activity of the Vocational Education Information System (VEIS) (10).

12. All students registering in California public schools offering industrial education programs be required to use the standardized registration forms.

13. A permanent advisory committee be formed to oversee the trial runs and later statewide operation of "the system."

---

*"The System" is substituted for the title.

14. Job placements be recognized for persons going into the armed services and of trade extension students.

15. An evaluation is conducted to evaluate "the system."

16. Students be completely responsible for any changes that are necessary to make on the records.

17. Any formula used to compute job placements use on unduplicated enrollment count.

18. One hundred percent reporting be required through the In-Class Follow-Through Form F-3.

19. Individual schools be responsible for collecting sufficient returns of the Out-of-Class Follow-Through Form F-4, to make a local job placement follow-through study feasible.

20. Some one person, preferably a computer expert, be charged with the overall responsibility of the technical part of "the system."

21. California educators who have had some successes with follow-up studies using EDP and computers be used as consultants.

22. Computer analysts and commercial facilities be contacted to write the necessary EDP and computer programs, and conduct field tests of "the system."

23. Some consideration be made of the possible uses of the data collected, other than job placement reporting.

24. Special recognition be made to each member of the ad hoc advisory committee.

25. A system analysis be made of any school district before "the system" is applied, either for trial runs or for a complete operation.

26. A file and index be maintained of all materials and correspondence accumulated during the building of "the system." A blow-by-blow account.

27. An annual report be made describing the outcome of the use of data from "the system" and what other studies have been started as a result of "the system."

28. Experts who have used EDP to do job placement follow-up studies from other states be invited to comment on "the system" even before trial runs are made.

29. The data collection may be used only for the evaluating and assessment of industrial education programs and for research.

30. Ample opportunity exists for the improvement of the communication and dissemination of factual-objective statements about industrial education in California.

31. Every opportunity to incorporate this study into a larger information storage and retrieval system be investigated.

32. That industrial educators do react to factual-objective data about industrial education programs and make the changes that are necessary.

33. Industrial educators recognize that their reaction to evaluations, objectively derived, has relevance to the immediate future of industrial education.

34. A study begin on the statistical analysis for data collected on a statewide basis.

35. Other industrial educators be given the opportunity to concentrate on a particular industrial education problem.

36. The ground work be laid for including junior college and adult industrial education students in the California Regional Education Data Processing Center (4) for pupil personnel data.

Iv7-45 1162 4-68 500

A P P E N D I X I I

MODIFIED FORMS

SUPPLEMENTARY REGISTRATION FORM

Note: Place only one (1) letter or one digit in each box. When asked to "check" a box, please use an "X" type check mark.

Social Security Number

Telephone Number

Office Use Only

School Code

Month

Year

1. Print one letter per square.

Last Name

First Name

Initial

2. Address while in school.

House or Rural route Number

Street or Avenue

City or Town

Zip Code

3. Address of a person who will always know your address.

House or Rural route Number

Street or Avenue

City or Town

Zip Code

4. Birthdate

Month

Year

5. Sex

Male

Female

5. Check highest educational level completed. (Check only one.)

Grade School	High School	College	Post-graduate
☐ 1	☐ 9	☐ 1	☐ Yes ☐ No
☐ 2	☐ 10	☐ 2	
☐ 3	☐ 11	☐ 3	
☐ 4	☐ 12	☐ 4	
☐ 5			
☐ 6			
☐ 7			
☐ 8			

6. Check your current enrollment plan. (Check all that apply.)

- ☐ High school diploma.
- ☐ Two year degree.
- ☐ Certificate Program (MDTA, Apprenticeship, On-The-Job Training, Trade extension, etc.)

7. Check your long range enrollment plan. (Check only one.)

- ☐ High school diploma.
- ☐ Two year college degree.
- ☐ Four year college degree.
- ☐ Post-graduate education.

8. What is the total number of units you carry this term? ☐ ☐ Units

9. Marital status

☐ Single ☐ Married ☐ Widowed ☐ Divorced ☐ Separated

10. Number of dependents supported by you.

☐ None ☐ One ☐ Two ☐ Three ☐ Four ☐ Five ☐ Six ☐ More

11. Estimate of annual family income.

☐ Less than $3,000.
☐ Between $3,000 and $6,000.
☐ Between $6,000 and $10,000.
☐ Between $10,000 and $15,000.
☐ Over $15,000.

12. Are you receiving financial assistance beyond your own or family resources? (Check all that apply.)

☐ State or federal funds (G.I. Bill, Veteran's Dependent, Vocational Rehabilitation, Disabled Veteran, other.)
☐ Local school (Scholarship, Loan, Work-Study, other.)
☐ Other.

13. What is the principal language spoken in your home?

☐ English	☐ French	☐ Chinese
☐ Spanish	☐ German	☐ Greek
☐ Italian	☐ Japanese	☐ Other (Specify) _____

14. Check your ethnic background.

☐ American Indian	☐ Japanese American	☐ Spanish American
☐ American Negro	☐ Mexican American	☐ Foreign Student
☐ Chinese American	☐ Philippine American	☐ Other (Specify) _____

15. Are you employed? If so, how many hours per week?

☐ ☐ Hours per week.

16. If not employed, are you seeking employment?

☐ Yes.
☐ No.

ENROLLMENT FORM

Note: Do not fill out this form until instructions have been given. Place only one (1) letter or one (1) digit in each box. When asked to "check" a box, please use an "X" type check mark. The student must complete questions one (1) through five (5) in every vocational class. Questions six (6) through eleven (11) must be completed only once. Question twelve (12) is to be completed by the instructor for all students.

1. ☐☐☐ ☐☐ ☐☐☐☐ 2. ☐☐ ☐☐☐ ☐☐☐

Social Security Number School Code

3. ☐☐ ☐☐ ☐☐☐☐ ☐☐

Class Code

4. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ ☐

Print Last Name First Name Initial

5. Is this class a benefit to your vocational plans? (Check only one.)

☐ Of immediate benefit.
☐ Of long-term benefit.
☐ Of indirect benefit.
☐ Of no benefit.

6. How many units of credit do you receive for this class? ☐☐

7. How many hours do you spend in class for this course? ☐☐ hours per week

8. Check one of the following if this is an apprenticeship or work-experience class.

☐ Apprenticeship
☐ Work-experience

9. Are you a full-time or part-time student?

☐ Full-time
☐ Part-time

10. Are you continuing in this school next term?

☐ Yes
☐ No
☐ Uncertain

11. If you are not returning, or uncertain, please provide an address where you can be contacted. (Please print.)

House or rural route number

Street or Avenue

City or Town

State

Zip Code

TO BE COMPLETED BY INSTRUCTOR

12. Check only one box which best describes the student.

- ☐ Student is currently enrolled in class.
- ☐ Student withdrew from class.
- ☐ Student status unknown.

*Note: If student is not present at the time questionnaire is administered, retain questionnaire no longer than one week before returning it.

FOLLOW-UP FORM

Dear Former Student:

This is a vocational training follow-up questionnaire to evaluate the effectiveness of your training even though you may not have completed your training. Your answers will be held in the strictest confidence.

Last Name _____ First Name _____ Initial _____

Social Security Number _____ School Code _____

1. If you have had occupational training in any of the following subject areas check the one area in which you have the most training.

- ☐ Agriculture
- ☐ Art
- ☐ Business
- ☐ Distribution and marketing
- ☐ Health occupations
- ☐ Home economics/Homemaking
- ☐ Industrial arts
- ☐ Office occupations
- ☐ Technical education
- ☐ Trade and industrial occupations
- ☐ Other (Specify) _____

2. Have you completed an occupational program in one of the above areas?

- ☐ Yes
- ☐ No

3. Why did you enroll in occupational training?

- ☐ To get a job.
- ☐ To advance in a job.
- ☐ To train for a different job.
- ☐ For general interest.
- ☐ Other (Specify) _____

4. Check if you have had either apprenticeship and/or work-experience training.

- ☐ Apprenticeship
- ☐ Work-experience

5. Are you employed?

- ☐ Yes
- ☐ No [If you are not employed, skip to question eleven (11).]

6. Check one box which best describes your employment.

- ☐ Employed in an occupation for which I was trained.
- ☐ Employed in an occupation related to my training.
- ☐ Employed in an unrelated occupation.

7. How many hours are you employed per week?

- ☐ 35 or more hours per week.
- ☐ Less than 35 hours per week.

8. Are you continuing in school?

- ☐ Yes
- ☐ No

9. What was your salary after training?

$_____ (Monthly rate)

10. What is your current salary?

$_____ (Monthly rate)

COMPLETE ONLY IF NOT EMPLOYED

11. Are you on active duty in the armed services?

- ☐ Yes
- ☐ No

12. Are you seeking employment?

- ☐ Yes
- ☐ No

13. Are you continuing in school?

- ☐ Yes
- ☐ No

14. Is there another reason why you are not employed in the civilian labor force?

- ☐ Yes (Specify) _____
- ☐ No

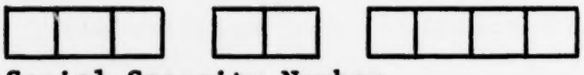
A P P E N D I X V I I

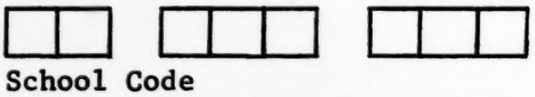
RECOMMENDED FORMS

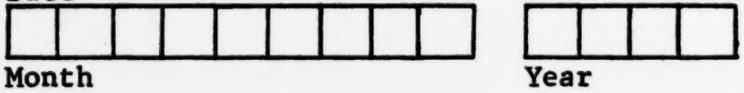
SUPPLEMENTARY REGISTRATION FORM

(For Students in Vocational Courses)

NOTE: Print only one letter in each box when a question asks for a name.
Print only one digit in each box when a question asks for a number.
Place an "X" in the appropriate box(es) for all other questions.
Check the reverse side of this form for additional instructions.
If there are further difficulties, ask the registrar.

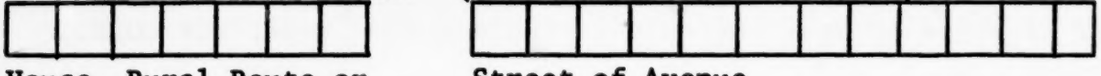
1. 
Social Security Number

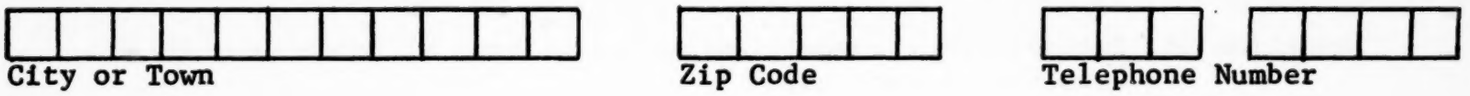
2. 
School Code
(See reverse side of form.)

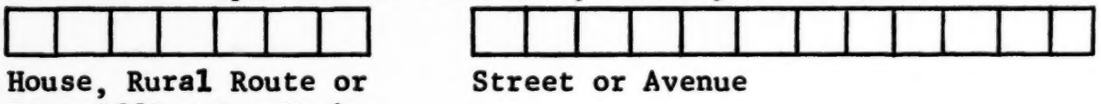
3. Date

Month Year

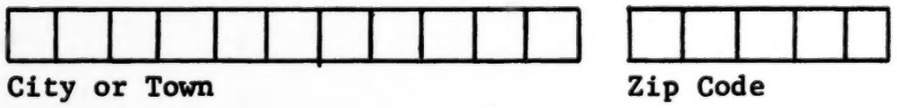
4. Print one letter per box. Do not use nicknames or abbreviations.

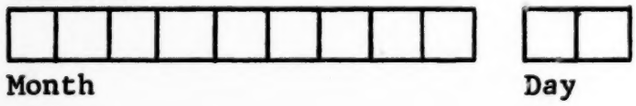
Last Name First Name Middle Initial

5. Address while in school. (See reverse side of form.)

House, Rural Route or Post Office Box Number Street of Avenue


City or Town Zip Code Telephone Number

6. Address of a person who will always know your address.

House, Rural Route or Post Office Box Number Street or Avenue


City or Town Zip Code

7. Birthdate

Month Day Year

8. Sex

Male Female

ADDITIONAL INSTRUCTIONS

This form is to be filled out at the time of registration by all students registering for a vocational course. Print only one letter in each box when a question asks for a name. Print only one digit in each box when a question asks for a number. Place an "X" in the appropriate box(es) for all other questions. If there are further difficulties, ask the registrar.

Question 1. Enter your social security number if it is not already entered. If it is entered, indicate any corrections. Your registration is not complete without it.

Question 2. If your school code number is not entered, the registrar will supply you with the correct number.

Question 5. Enter the address of the place at which you will be staying while in school. Be sure to include the proper ZIP CODE. Use RR as a prefix for Rural Route numbers and PO as a prefix for Post Office box numbers. (For example, RR10 or PO1573.) Also enter the telephone number at that address or another telephone number at which you can be reached.

Question 6. Enter the address of someone who will always be able to forward any messages to you. Be sure to include the proper ZIP CODE.

Question 12. Enter the number of units or hours which (hopefully) will be entered on your transcript for the completion of work in your current term. If uncertain, ask the registrar.

Question 15. Estimate your annual family income from all sources. This question is optional.

Question 18. Indicate your ethnic background. This question is optional.

SUPPLEMENTARY REGISTRATION FORM (Continued)

9. What is the highest educational level you have completed? (Mark only one.)

Grade School	High School	College	Post-graduate
☐ 1	☐ 9	☐ 1	☐ Yes ☐ No
☐ 2	☐ 10	☐ 2	
☐ 3	☐ 11	☐ 3	
☐ 4	☐ 12	☐ 4	
☐ 5			
☐ 6			
☐ 7			
☐ 8			

10. What is your immediate educational objective? (Mark all that apply.)

- ☐ High school diploma
- ☐ Two-year degree
- ☐ Certificate program (MDTA, Apprenticeship, On-the-job training, Trade extension, etc.)

11. What is your ultimate educational goal? (Mark only one).

- ☐ Certificate program only
- ☐ High school diploma
- ☐ Two-year college degree
- ☐ Four-year college degree
- ☐ Post-graduate education
- ☐ Undecided

12. What is the total number of units you will take this term? ☐☐ Units

13. Marital status

☐ Single ☐ Married

14. Number of dependents supported by you. Do not include yourself.

☐ None ☐ One ☐ Two ☐ Three ☐ Four ☐ Five ☐ Six ☐ More

15. Estimate of annual family income from all sources.

- ☐ Less than $3,000
- ☐ Between $3,000 and $6,000
- ☐ Between $6,000 and $10,000
- ☐ Between $10,000 and $15,000
- ☐ Over $15,000

SUPPLEMENTARY REGISTRATION FORM (Continued)

16. Are you receiving financial assistance for your education beyond your own or family resources? (Mark all that apply.)

- ☐ State or federal funds (G.I. Bill, Veteran's Dependent, Vocational Rehabilitation, Disabled Veteran or other.)
- ☐ Local school (Scholarship, Loan, Work-Study or other.)
- ☐ Other

17. What is the principal language spoken in your home? (Mark only one.)

- ☐ English
- ☐ Spanish
- ☐ Italian
- ☐ French
- ☐ German
- ☐ Japanese
- ☐ Chinese
- ☐ Greek
- ☐ Other (Specify) _____

18. What is your ethnic background? (Mark only one.)

- ☐ American Caucasian
- ☐ American Indian
- ☐ American Negro
- ☐ Oriental American
- ☐ Mexican American
- ☐ Philippine American
- ☐ Spanish American
- ☐ Foreign Student
- ☐ Other (Specify) _____

19. If you are employed, how many hours per week do you work?

☐☐ Hours per week

20. If not employed, are you seeking employment?

- ☐ Yes
- ☐ No

ENROLLMENT FORM

NOTE: DO NOT fill out this form until instructions have been given. This form is to be filled out by all students, even if a similar form has been previously filled out in another class. Print only one letter in each box when a question asks for a name. Print only one digit in each box when a question asks for a number. Place an "X" in the most appropriate box for all other questions. Additional instructions are on the reverse side. If there are further difficulties, ask your instructor.

1. ☐☐☐ ☐☐ ☐☐☐☐ Social Security Number

2. ☐☐ ☐☐☐ ☐☐☐☐ School Code (See reverse side of form.)

3. ☐☐☐☐☐☐☐ Class Code (See reverse side of form.)

4. Print one letter per box. Do not use nicknames or abbreviations.

☐☐☐☐☐☐☐☐☐☐☐☐☐ Last Name ☐☐☐☐☐☐☐☐☐☐ First Name ☐ Middle Initial

5. Does this class provide you with knowledge and/or skills which you need for employment? (Mark only one.)

- ☐ Yes, it is directly beneficial.
- ☐ Yes, it is indirectly beneficial.
- ☐ No, it is not beneficial.

6. How many units of credit will you receive for this class?

☐☐ Units

7. How many hours do you spend in class each week for this course?

☐☐ Hours per week

8. Is this class an apprenticeship or cooperative work-experience class? (Mark only one. If uncertain, see reverse side of form.)

- ☐ Apprenticeship
- ☐ Cooperative work-experience
- ☐ Neither

ADDITIONAL INSTRUCTIONS

This form is to be filled out by all students, even if a similar form has been previously filled out in another class. Print only one letter in each box when a question asks for a name. Print only one digit in each box when a question asks for a number. Place an "X" in the most appropriate box for all other questions. If there are further difficulties, ask your instructor.

Question 1. Enter your social security number if it is not already entered. If it is entered, indicate any corrections.

Question 2. If your school code number is not entered, your instructor will supply you with the correct number.

Question 3. If your class code number is not entered, your instructor will supply you with the correct number.

Question 6. Enter the number of units or hours which (hopefully) will be entered on your transcript for the completion of work in this course. If uncertain, ask the instructor.

Question 7. Enter the number of hours you spend in class each week for this course. Note that this may be different from the number of units you will receive as entered in question 6.

Question 8. The definitions of apprenticeship and cooperative work-experience are as follows:

> Apprenticeship -- Classroom instruction for apprentices which provides related technical and/or theoretical knowledge in a craft for which they are employed.
> Cooperative work-experience -- An activity in which pupils in occupational programs or studies receive on-the-job training in business or industry.

If still uncertain, ask your instructor.

Question 9. Your instructor will provide you with the definition of "full-time" and "part-time" at your school.

Question 11. Enter an address at which you may be contacted if you do not attend this school next term or an address of someone who will always be able to forward any messages to you. Be sure to include the proper ZIP CODE. Use RR as a prefix for rural route numbers and PO as a prefix for post office box numbers. For example, RR10 or PO1573.

ENROLLMENT FORM (Continued)

9. Are you a full-time or part-time student? (If uncertain, see reverse side of form.)

   ☐ Full-time
   ☐ Part-time

10. Will you attend <u>this</u> school next term?

   ☐ Yes
   ☐ No
   ☐ Uncertain

11. If you may <u>not</u> attend this school next term, print an address at which you may be contacted. (See reverse side of form.)

House, Rural Route or Post Office Box Number

Street or Avenue

City or Town

State

Zip Code

TO BE COMPLETED BY INSTRUCTOR

12. Mark only <u>one</u> box which best describes the student.

   ☐ Student is currently enrolled in class.
   ☐ Student withdrew from class.
   ☐ Student status unknown.

NOTE: If the student is not in class, administer this form as soon as possible.

☐☐ ☐☐☐ ☐☐☐

Office Use Only - School Code

FOLLOW-UP FORM

NOTE: This form is for evaluative purposes only. Your responses will be kept in the strictest confidence. Please indicate any corrections in the pre-printed information. Place an "X" in the appropriate box(es) for all questions which apply to you. Skip those that do not apply.

1. Indicate any corrections in your name and social security number.

☐☐☐ ☐☐ ☐☐☐☐

Social Security Number

☐☐☐☐☐☐☐☐☐☐☐☐ ☐☐☐☐☐☐☐☐☐☐ ☐

Last Name First Name Middle Initial

2. According to our records, the one area in which you have had the most occupational training is:

_____

If this is correct, go to the next question. If this is not correct, please specify below the correct subject area. (See the reverse side of this form for a listing of all occupational subject areas.)

(Specify correct area) _____

3. Have you completed an occupational program (a course or sequence of courses specified by your school) in the above area?

☐ Yes
☐ No
☐ Uncertain

4. Why did you enroll in occupational training? (Mark only one.)

☐ To get a job.
☐ To advance in a job.
☐ To train for a different job.
☐ For general interest.
☐ Other (explain) _____

5. Have you had apprenticeship and/or cooperative work-experience training? (Mark all that apply. If uncertain, see reverse side of form.)

☐ Apprenticeship
☐ Cooperative work-experience
☐ Neither

ADDITIONAL INSTRUCTIONS

This form is for evaluative purposes only. Your responses will be kept in the strictest confidence. Please indicate any corrections in the pre-printed information. Place an "X" in the appropriate box(es) for all questions which apply to you. Skip those that do not apply.

I. Definitions of Apprenticeship and Cooperative Work-Experience

A. Apprenticeship -- Classroom instruction for apprentices which provides related technical and/or theoretical knowledge in a craft for which they are employed.

B. Cooperative work-experience -- An activity in which pupils in occupational programs or studies receive on-the-job training in business or industry.

II. List of Occupational Subject Areas

A. Agriculture -- Subjects related to the functions of agricultural production, distribution, servicing, mechanization, processing, resources or marketing. Includes gardening, ornamental horticulture, park and recreation management, conservation and forestry.

B. Distribution and marketing -- Subjects related to activities which direct the flow of goods and services, including their appropriate utilization, from the producer to the consumer to the user. Includes buying, selling, transportation, storage, marketing research and communication, marketing finance and rishk management.

C. Health -- Subjects concerned with assisting qualified personnel in providing diagnostic, therapeutic, preventative, restorative and rehabilitative services. Includes skills essential for the care and health of patients.

D. Home economics/Homemaking -- Subjects related to personal, home and family life and preparation for occupations utilizing the knowledge and skills of home economics subjects. Includes child development, food and nutrition, clothing and textiles, home management, housing, home furnishings and equipment and family health.

E. Office -- Subjects leading to employment or advancement in office occupations. Includes accounting and bookkeeping, data processing, clerical and typing skills, secretarial and related skills, supervision and coordination of office activities and internal and external communication.

F. Technical -- Subjects which depend largely upon technical information and an understanding of the laws of science, math and principles of technology for employment in the occupational area between the skilled craftsman and the professional.

G. Trade and industrial -- Subjects concerned with developing basic manipulative skills and related technical information for employment in industrial trades and crafts.

FOLLOW-UP FORM (Continued)

6. Are you employed?

☐ Yes
☐ No (If you are not employed, go to question 12.)

COMPLETE ONLY IF EMPLOYED

7. Mark the one box which best describes your employment.

☐ Employed in an occupation for which I was trained.
☐ Employed in an occupation which is related to my training.
☐ Employed in an occupation which is unrelated to my training.

8. How many hours per week are you employed?

☐ 35 hours or more per week
☐ Less than 35 hours per week

9. Are you presently in school?

☐ Yes
☐ No

10. What was your monthly salary immediately after training?

$_____ Per Month

11. What is your current monthly salary?

$_____ Per Month

COMPLETE ONLY IF NOT EMPLOYED

12. Are you on active duty in the armed services?

☐ Yes
☐ No

13. Are you seeking employment?

☐ Yes
☐ No

FOLLOW-UP FORM (Continued)

14. Are you presently in school?

☐ Yes
☐ No

15. Is there another reason why you are not employed in the civilian labor force?

☐ Yes (Explain) _____
☐ No